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## BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

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|---|---|---|
| **IN THE MATTER OF DIAMOND BAR ESTATES WATER COMPANY'S APPLICATION FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR WATER SERVICE IN THE STATE OF IDAHO.** | ) | **CASE NO. DIA-W-15-01**<br><br>**COMMENTS OF THE COMMISSION STAFF** |

**COMES NOW** the Staff of the Idaho Public Utilities Commission, by and through its Attorney of record, Daphne Huang, Deputy Attorney General, and submits the following comments.

### BACKGROUND

On December 28, 2015, Diamond Bar Estates Water Company (Diamond Bar) filed a general rate case Application to increase its rates and charges for water service, effective February 1, 2016. On January 13, 2016, the Commission issued a Notice of Application and Notice of Modified Procedure, and suspended the requested effective date until July 1, 2016. Order No. 33452.

In its Application, the Company proposes to increase its rates by 79.39%, which if approved, would produce about $20,910 more in annual revenue than the prior year. Application at 1. Diamond Bar notes that it has not had a rate increase since October 2007, when the

Commission issued Order No. 30455. *Id.* The Company also proposes to increase its new customer meter installation fee from $310 to $475. *Id.* With its Application, the Company submitted proposed notices to be sent with customer bills, and to be published in local newspapers. *Id.* at 3; Exh. 5.

Diamond Bar proposes raising the monthly minimum rate from $29.00 for the first 5,500 gallons of water to $52.02 per month, and raising the commodity rate for usage above 5,500 gallons per month from $0.80 per 1,000 gallons (above the initial 5,500 gallons) to $1.44 per 1,000 gallons. Proposed Amended Tariff. The Company proposes a rate base of $40,398, reflecting accumulated depreciation of $12,669, but also including a working capital allowance of $4,679 – or 1/8th of the Company's operation and maintenance expenses. *Id.* at 1-2; Exh. 1.

According to Diamond Bar, the Company has been operating at a loss, and the proposed increases, if approved, would enable it to recover various expenses. Application at 2. The largest expense that Diamond Bar seeks to recover is for costs incurred from multiple pump failures during 2015. *Id.* The Company also asks to recover costs of "bookkeeping and customer-service related services," and recovery for expenses from "water testing, meter reading, pump service and on-call duties." *Id.*; Exh. 2. In addition, the Company seeks to recover rate case expenses for this filing, and the cost of electricity to run its pumps. *Id.*

## STAFF ANALYSIS

### System Description

Diamond Bar provides water service to approximately 44 customers in the Diamond Bar Estate Subdivision and the Boekel Estates Subdivision in Kootenai County, Idaho, near Rathdrum. Most customers maintain lots of approximately five acres. Average annual water use per customer typically exceeds 300,000 gallons; however, there is significant variation in usage among customers. Water is sourced from two wells in the vicinity.

Diamond Bar was granted a Certificate of Public Convenience to serve the Diamond Bar Estates subdivision on May 30, 2003 (Case No. GNR-W-02-03, Order No. 29247). The authorized service territory was expanded to include the Boekel Estates Subdivision on August 2, 2004 (Case No. DIA-W-04-01, Order No. 29556).

**Staff Audit**

Staff's audit found that the Company generally maintains good records. Diamond Bar uses a hybrid between cash and accrual accounting. Plant in service and accounts payable are reported on an accrual basis, while the revenues are recorded on a cash basis. Internal controls were generally adequate with month-end reconciliations available for review. However, Staff found that several expenses and capital projects were misclassified. Also, there were neither operating nor capital budgets in use at the time of the audit. The Company's bookkeeper, Mrs. Cristy Turnipseed, stated that she has little to no training in regulatory accounting standards.

Staff notes that this was not the Company's first Staff audit. In this case, the Company hired a consultant to assist with the rate case. Generally the consultant's workpapers and process were not available for review, and questions to the consultant were not answered in a timely fashion if at all.

The Company requested a test year ending December 31, 2014, with pro forma adjustments. Staff made adjustments and updated the results. Attachment A shows a summary of the adjustments Staff recommends for this case. The Staff-adjusted results show a net loss of $6,932 and a rate base of $32,945.

***Adjustment 1 - Plant in Service***

The Application stated that plant in service at fiscal year ending December 31, 2014 was $48,388 with accumulated depreciation totaling $12,669, resulting in a net plant in service of $35,719 with a depreciation expense of $1,881. These number are based on the 2014 annual report submitted on November 5, 2014. The Company stated this was created by their consultant. Staff requested backup documentation, but was unable to reconcile the plant in service with any of the backup documentation. Staff asked the consultant to reconcile the annual report plant in service with the backup documentation provided, but has not received a response. Staff therefore created a new plant in service listing from the previous rate case and the results of this audit.

Staff recommends using the plant in service at December 31, 2015. The items are known and measurable, as well as used and useful. This also results in a more accurate rate base and revenue requirement.

In Case No. DIA-W-07-01, Order No. 30455, the Commission set plant in service at $15,449. The plant in service consisted of a well pump and software program placed in service in 2002, fencing around the well house and reservoir, flow meters, and hydrant locks placed in

service in 2006. Of the plant items in the last case, the only remaining items still in the plant in service rate base are the fencing and the flow meters. The hydrant locks are also in service, but have been fully depreciated.

Since the last rate case, the Company made significant investments in this water system. In 2007, the Company installed new gate valves. In 2010, the Company installed a new delay timer, as well as new water check valves. In 2011, the Company replaced one of the booster pumps. In 2012, the Company replaced another booster pump. In 2014, the Company installed a sub monitor and lightning arrestor for the well pump, plus additional grounding wire. In 2015, the Company replaced the well pump and installed a transformer pad with improved wiring to the pump house, as well as an additional lightning arrestor and emergency bypass. The Company has replaced the main well pump repeatedly – in 2010, 2012, 2014, and twice in 2015 – which will be discussed in more detail under the deferral and amortization of pump replacement costs. Staff reviewed the invoices and conducted an onsite inspection to verify that these items are all currently in place. Staff recommends plant in service totals of $39,670. *See* Attachment B.

In Attachment B, Staff set depreciation lives for all the new assets. These depreciation lives are within the bounds set by the NARUC guidelines. Staff used the half year convention for the first year of operation for each asset to calculate accumulated depreciation of $10,177 and depreciation expense of $1,891. Depreciation for the flow meters reflects only half a year of the remaining life and depreciation. As shown in Column 1 of Attachment A, Staff recommends a decrease of $2,492 for accumulated depreciation, a decrease of $8,718 in plant in service, and an increase of $10 in depreciation expense.

**Revenue**

Staff reviewed the procedure for producing bills, receiving payments and posting the payments to the proper account. Staff found no material deficiencies in controls. The Company reported that there are almost no uncollectable accounts, and the audit confirmed this.

***Adjustment 2 – Remove Bar Circle S Water Revenue***

In the test year, the Company posted a rebate from Kootenai Electric Coop totaling $642 to other revenue. This was improper for two reasons. First, the rebate should be posted as a reduction to power expense rather than revenue. Second, the rebate was made to Bar Circle S

Water, and thus should not have been included in the results for Diamond Bar. Staff recommends removing this from revenues. With this adjustment, Staff recommends revenue of $25,696.

**Expenses**

Staff reviewed the Company's process for receiving and paying invoices. Staff found that controls were adequate to prevent any material errors in payment. At times, the Company lacked adequate knowledge to post expenses to the proper account leading to some misclassifications.

***Adjustment No. 3 – Reclassify Expenses***

Staff found three misclassifications of expenses, only one of which impacts the revenue requirement. First, the Company misclassified expenses totaling $9,431, related to the water system operator, as Contract Services – Water Testing. Staff recommends this be reclassified as Labor Operations & Maintenance. This results in no change to revenue requirement.

Second, the Company misclassified the natural gas expense for heating the well house, totaling $405, as Purchased Power & Fuel for Power. Staff recommends reclassifying this as Miscellaneous Expenses. This also does not change revenue requirement.

Finally, the Company misclassified the pro forma adjustment for the pump repairs, totaling $5,750, as Materials & Supplies – Operations & Maintenance. The Company is requesting a deferral and recovery of the costs. It therefore should be removed from operating expenses and booked as a separate regulatory asset to be amortized. This reclassification removes the pump repair costs from working capital, thus lowering working capital by $719, and revenue requirement by $110.

***Adjustment No. 4 – Deferral and Amortization of Pump Replacement Cos*ts**

The Company has experienced a series of pump failures starting in 2012. The pump replacement in 2010 appeared to be a normal failure. However, the pump failed and had to be replaced again in 2012, 2014, and twice in 2015. Initially the Company believed the pump failure was caused by a lightning strike, and insurance covered a significant portion of the replacement cost ($9,500 of $12,089). When the pump failed in 2014, the Company installed additional grounding wire and a lightning arrestor in an effort to prevent additional failures. Insurance again covered part of these expenses ($4,171 of $14,171).

When the pump failed in June 2015, the Company did not file an insurance claim. The Company retained AEI Engineering Incorporated to find the cause of the failures. AEI prepared a report indicating that the primary cause appeared to be erratic power from the electric company, and made five recommendations to prevent future failures.

First, AEI recommended improving the grounding wires. The Company improved the grounding wires in 2014. Second, AEI recommended installing an additional surge protection device, which Diamond Bar also did. Third, AEI recommended upgrading the transformer. Kootenai Electric Coop provided a transformer for which Diamond Bar built a pad. The transformer's pad and wire, which the Company provided, was included in rate base, but the cost of the transformer, provided by Kootenai Electric, was not. AEI's fourth recommendation was, if the transformer could not be upgraded, to replace the fuse disconnect. Because the transformer was upgraded, this was not necessary. Finally, AEI recommended installing a solid state soft starter. This has not been completed, but Staff recommends the Company do so as soon as it is feasible. *See* Attachment C (AEI Engineering Report). The improvements appear to have resolved the problem, as there have been no pump failures since the recommended improvements were made.

Pump replacements have been a drain on the Company's resources. The Company claimed it spent $23,000 in 2015 to keep the system running, and asks to recover those expenses over four years. Staff investigation found that these expenses were associated with replacing the pump twice in 2015. Staff does not believe the requested amortization and recovery reflect proper accounting. Staff recommends instead that the unrecovered investment of the previous pumps be placed in a deferral account to be amortized and recovered over the average remaining life of those pumps.

Under normal accounting treatment upon the early retirement of an asset, the remaining book value would be written off as an extraordinary loss and would not be recoverable in rates. Staff's proposed treatment recognizes the unique circumstances that required multiple replacement and books the undepreciated book balance in a regulatory account to be amortized over the remainder of the depreciable life of the asset. The Commission has allowed similar treatment in some instances. *See* Case No. PAC-12-08.

The initial cost of the four replaced pumps was $51,444, with $13,671 paid by the insurance company, thus reducing the deferral amount. In addition, Staff found no evidence that it was prudent for the Company to avoid filing an insurance claim after the first 2015 pump failure.

Therefore, Staff recommends an additional reduction of $3,764 for the amount Diamond Bar's insurance policy would have covered had the Company filed a claim. In addition the accumulated depreciation of $2,751 for those pumps should be a reduction to the deferral amount. This results in a total remaining deferral amount of $31,258.

The average remaining life of the pumps is 18 years as shown on Attachment D. Staff therefore recommends an amortization period of 18 years. This results in an amortization expense of $1,737 with a reduction of $4,013 from the Company's Application. *See* Attachment D.

***Adjustment No. 5 – Rate Case Amortization***

The Company requests that the costs associated with the rate case be amortized over four years for recovery. They estimated these costs to be $4,418. Actual costs as provided by the Company to date were $4,761. These costs include consultant fees for $2,200, postage of $111, administrative work of $1,700, and water system operator work of $750.

Staff agrees that reasonable costs associated with the rate case should be recovered. The Company has filed two rate cases since becoming regulated and the time between those rate cases was four and eight years, respectively. Staff recommends that the amortization period for the rate case expense be the average of the years between rate cases or six years.

In reviewing the invoices from the consultant, Staff found that $200 of those costs was related to preparing the 2015 annual report. This expense, which was included under Contract Services – Professional, is not associated with the rate case, and should thus be removed. Although the consultant failed to provide proper documentation and responses to Staff's questions, Staff does not believe this lack of cooperation necessarily warrants denial of the expenses paid to the consultant.

The Company also claims 85 hours of work on the case by an administrative staffer, and 30 hours of work on this case by the water system operator. Staff finds that the hours worked and the rates assigned to that work are acceptable. Staff recommends approving costs for this rate case of $4,561, amortized over six years. The resulting rate case amortization expense is $794, or a reduction of $311 to the Company's proposed revenue requirement. *See* Attachment E.

***Adjustment No. 6 – Salary Expense***

The Company requests recovery of $9,431 as salary for the water system operator. In Order No. 30455, the Commission authorized $6,968 for the water system operator. Using the

Bureau of Labor Statistics from 2006 and 2015, Staff found that wages for Water and Wastewater Treatment Plant and System Operators in the Coeur d'Alene area increased by an average of 22.98%. Staff recommends that the salary for the water system operator be increased by the same percentage with $8,668 approved for recovery, thus reducing Diamond Bar's proposal by $763. *See* Attachment F.

The Company requests recovery of $7,325 in salary for the bookkeeper. In Order No. 30455, the Commission authorized $3,600 for the bookkeeper. Using the Bureau of Labor Statistics from 2006 and 2015, Staff found that wages for Bookkeeping, Accounting, and Auditing Clerks in the Coeur d'Alene area increased by an average of 28.86%. Staff recommends that the salary for the bookkeeper be increased by that same percentage, with $4,700 approved for recovery, thus reducing Diamond Bar's proposal by $2,625. *See* Attachment G.

Staff recommends a total of $3,388 in salary reductions. This impacts the working capital calculation, reducing rate base by $424. Thus the total revenue requirement reduction is $3,462.

***Adjustment No. 7 - Water Testing Expense***

The Company proposed a water testing expense of $300. Different testing cycles for various regulated water contaminants are required by the Idaho Department of Environmental Quality (IDEQ); hence, it is common practice and necessary to normalize water testing costs over several years. In consultation with IDEQ, Staff developed a complete list of required tests, with a water testing cycle of nine years. Attachment H shows the required water quality tests for water contaminants and the annualized water testing costs of $547. Staff recommends increasing the test year water testing cost by $247 to reflect normalized levels.

***Adjustment No. 8 - Purchased Power Expenses***

The Company proposed purchase power and fuel expenses of $9,990. Of this, $405 was related to natural gas use at the pump house, which was addressed separately in Adjustment 3. The remainder of the request for purchase power and fuel is $9,585. The request includes an adjustment of $479 for what the Company claimed was in increase in Kootenai Electric Cooperative's electric power rates. Staff recommends that this $479 adjustment be rejected because the 2014 electric power costs reflect the current electric rates. There has been no increase in Kootenai Electric Cooperative's electric power rates since test year 2014 bills were issued. Separately, Staff recommends an adjustment to reduce power costs by an additional $437. This

downward adjustment to power costs reflects the removal of personal energy use from the power cost total. Diamond Bar's owners' personal water use accounted for 4.8% of total water pumped from the wells. Therefore, 4.8% of power costs was designated as personal use. The $437 adjustment represents 4.8% of the adjusted power costs of $9,106 ($9,585 - $479).

The sum of the Staff-recommended $479 downward adjustment for power rates and the $437 downward adjustment for personal use is a downward adjustment of $916, as reflected in Attachment I. No additional normalization adjustments were necessary for purchased power expenses. The Company-proposed adjusted purchase power and fuel expenses of $9,585 accounts for around 25.6% of the Company-proposed operating expenses of $37,434.

Staff adjustments result in total Operating Expenses of $27,627, and Total Expenses of $32,628. The resulting Net Loss is $6,932.

**Rate of Return**

Staff agrees that the Company is currently completely owner-financed. Consistent with Commission-authorized return on equity for many small water companies, Staff recommends a 12% return.

**Calculation of Revenue Requirement**

Staff recommends a total rate base of $32,945, as shown on Attachment J. This is $7,453 less than the Company's proposal. Staff's recommended rate base consists of net plant in service of $29,493 and a working capital amount of $3,452. Staff calculated working capital based on 1/8th of the operating expenses of the Company. This is the same methodology used by the Company in its Application.

Attachment K shows the Staff-recommended revenue requirement. Staff calculated the revenues associated with the return on rate base (line 3) to be $3,953 ($32,945 x 12%). This amount is subject to federal income taxes, state income taxes, and Idaho Public Utilities Commission (IPUC) fees. The Staff-calculated net loss of $6,932 must be recovered and is also subject to IPUC fees. The process of increasing the revenue requirement for taxes and IPUC fees is referred to as the "gross-up." The gross-up factor is 128.0631% when the amount is subject to income taxes and 100.1881% when not subject to income taxes. The process of calculating the gross-up factors is detailed on Attachment K, lines 17 to 24. These grossed up amounts result in a

total deficiency of $12,008 (line 13), which is $8,902 less than the Company's request. The Staff-recommended revenue requirement percentage increase is 46.73%.

**RATE DESIGN**

The Company's current rate structure is a two-part (minimum charge & commodity usage) charge) structure with: (1) a minimum monthly customer charge of $29.00 per month with a volume allowance of 5,500 gallons per month; and (2) a single-block commodity charge of $0.80 per 1,000 gallons for consumption in excess of 5,500 gallons. Diamond Bar proposes to increase the minimum monthly charge to $52.02 per month, and to increase the commodity charge to $1.44 per 1,000 gallons for consumption in excess of 5,500 gallons. The Company proposes to retain the 5,500 gallon volume allowance. The Company's proposal represents a 79.4% and 80.0% increase in the minimum monthly charge and the commodity charge, respectively. The slight difference in the percentage increase is related to rounding. The Company-proposal is summarized in the following table.

| Charge | Current | Company Proposed | % Change |
|---|---|---|---|
| Minimum Monthly | $29.00 | $52.02 | 79.4% |
| Volume Allowance Gallons/month | 5,500 | 5,500 | No Change |
| Commodity ($/1,000 gallons) | $0.80 | $1.44 | 80.0% |

Staff believes it is appropriate to maintain the existing two-part, single block rate design with a minimum-charge volume allowance. Other small water utilities regulated by the Commission use this rate structure because it is simple, easy to implement, and reasonably cost-based. Relative to a "flat" rate structure (minimum charge only with no commodity charge), the proposed two-part rate design provides a better conservation incentive. Under the proposed two-part rate design, a customer using more water pays a larger monthly bill, assuming that he or she has usage in excess of the 5,500 gallon monthly allowance.

The Staff proposal substantially maintains the rate structure and is expected to generate the Staff-proposed revenue requirement. The percentage changes in the Staff-recommended minimum monthly charge and commodity charge are 41.4% and 46.3%, respectively. While the

Staff-recommended percentage increases in the charges are similar, the percentage increase in the commodity charge is slightly higher than the percentage increase in the minimum monthly charge. The slight difference in these percentages results from rounding the minimum monthly charge to a whole dollar amount ($41.00). Also, the direct relationship between usage level and percentage bill increase promotes conservation. By maintaining similar percentage increases in the minimum monthly charge and the commodity charge, and retaining the current volume allowance, the percentage increases in bills will be similar across customers and across billing months.

Monthly bill increases will range from 41.4% to 45.0%, and will average around 43%. Most bill increases will fall between 41.4% and 44.0%. Given that no customer expressed dissatisfaction in comments or at the public meeting regarding how costs were distributed among fellow customers, retention of the current rate structure is appropriate. The Staff proposal is shown below.

| Charge | Current | Staff Proposed | % Change |
|---|---|---|---|
| Minimum Monthly | $29.00 | $41.00 | 41.4% |
| Volume Allowance Gallons/month | 5,500 | 5,500 | No Change |
| Commodity ($/1,000 gallons) | $0.80 | $1.16 | 45.0% |

The following table shows the bill-impact by usage level:

| Monthly Usage (Gal) | Current Bill | Bill - Staff Proposal | % Change |
|---|---|---|---|
| 5,500 | $29.00 | $41.00 | 41.4% |
| 10,000 | $32.60 | $46.22 | 41.8% |
| 25,000 | $44.60 | $63.62 | 42.6% |
| 50,000 | $64.60 | $92.62 | 43.4% |
| 100,000 | $104.60 | $150.62 | 44.0% |
| 150,000 | $144.60 | $208.62 | 44.3% |
| 300,000 | $264.60 | $382.62 | 44.6% |

Attachment L is a proof of revenue calculation. The proof of revenue calculation demonstrates that when Staff's proposed rates (shown in the table above) are applied to test-year customer counts and billed gallons, the resulting revenue is consistent with Staff's revenue requirement recommendation.

**Customer Notice and Press Release**

The Company filed a proposed Customer Notice along with the Company's Application for a rate increase on December 28, 2015. The notice did not meet requirements in the Commission's Rules of Procedure, IDAPA 31.01.01. The Company had not sent out the Customer Notice prior to filing its Application and Staff recommended changes to the notice. The Company made the necessary changes and sent the revised notice to customers in early January 2016. A copy of the notice was also sent as a press release to the Coeur d'Alene Press, which published an article on January 13, 2016, regarding the proposed rate increase.

In addition, the Commission issued a press release on March 17, 2016, regarding the Commission-sponsored customer workshop. The Coeur d'Alene Press published an article based on the press release on March 18, 2016. The customer workshop was held April 19, 2016, in Rathdrum and was attended by more than 30 people.

**Customer Comments Regarding the Proposed Rate Increase**

As of May 18, 2016, 16 comments regarding the proposed increase in rates have been submitted. All customer comments oppose the amount of the rate increase. Some customers suggest that if a rate increase is necessary, it should be spread over a number of years.

The customers note that increases exceed any CPI/COLA allowances in pensions or Social Security and maintain that the proposed increase in commodity rates for usage above the 5,500 gallons, included in the minimum charge, would affect customers' ability to maintain lawns and pastures. Many of the concerns are from customers with fixed-incomes, or retired customers who believe basic living costs are rising without income keeping pace.

The Diamond Bar Homeowner's Association and several customers express concern about the Company's operations and maintenance costs over the years, as related to previous pump failures, and whether the Company properly reported changes in plant in service in its annual reports. Customers also express concern about the outages caused by the pump failures and continued access to the back-up water source.

### Customer Complaints

There are no customer complaints on record at the Commission for the past three years (2013, 2014 and 2015). In 2016, a customer contacted the Commission to get more information about filing comments in the current case.

## COMPANY TARIFF

The Company's current tariff, including its Rate Schedules and the General Rules and Regulations for Small Water Utilities, was last updated in 2007 at the conclusion of Case No. DIA-W-07-01. In 2008, Commission Staff developed a Model Tariff, which includes revised General Rules and Regulations and incorporates the Uniform Main Extension Rule for Water Utilities based on Order No. 7830 (Case No. U-1500-22).

The Company's most recent Report of Sanitary Survey as released by IDEQ indicates that the Company initiated a Cross Connection Control Program in 2004.[1] In 2013, IDEQ revised the requirements, but the Company's tariff has yet to be updated to reflect the changes.

Staff recommends that the Company update its tariff. Staff is willing to work directly with the Company to ensure its tariff complies with the Commission's rules and regulations.

## NON-RECURRING CHARGES

### New Customer Connection Charge

The New Customer Connection Charge applies to a first-time connection with the Diamond Bar system when an existing service line and meter base are already in place on the property. Diamond Bar requests an increase in the New Customer Connection Charge from the current $310 to $475 per connection. Staff believes the Company's requested $475 charge is too high, and recommends that it be reduced. Staff estimated the cost of a new connection based on meter cost, labor cost, and transportation, and recommends a New Customer Connection Charge of $335. *See* Attachment M. The charge will have limited applicability because only about twelve lots remain to be developed in the two subdivisions served.

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[1] According to IDEQ, "a cross-connection is an actual or potential connection or piping arrangement between a drinking water system and another source that could introduce anything other than the potable water intended to normally supply the system. Cross-connections include bypass arrangements, jumper connections, removable sections, swivel or changeover devices, and other devices that may cause non-potable water to backflow into the potable water supply. Backflow occurs when the normal flow direction of the water system is reversed due to back pressure or back siphonage." IDEQ Drinking Water Cross Connections Control Programs Fact Sheet (FS-0416).

**Reconnection Fee**

Staff recommends that the Company revise its Rate Schedule No. 2 to describe the circumstances under which a customer may be disconnected. Staff is willing to assist the Company in revising the Rules and Regulations section of its Company tariff to reflect Staff's recommended changes.

**Late Payment Charge**

Late payment charges encourage timely payment and allow the Company an opportunity to recoup some of the cost of collecting unpaid bills. The Company sends out its billing statements at the beginning of every calendar month, for service provided the previous month. Staff supports adoption of a late-payment charge to encourage prompt bill-payment. Staff recommends that the Company be allowed to charge 1% on any past-due balance owing at the time of the next billing statement.

**Billing Statements**

The Company's meter-reading practice is to read the meters the last Saturday of each month, except in the winter months. The Company generates the customer billing statements after meter readings are taken at the end of the previous month, and usually sends the statements around the first of each month. During the Commission's workshop, a customer raised an issue about the billing statements. Customers did not know when the meters were read and were unable to determine the length of the billing period.

Considering the Company's current meter reading schedule, the number of days in a billing period could vary from 28 days to 35 days. Staff recommends that the Company include the first and last dates of its meter-reading period on its billing statement, as required by Rule 201.03 of the Utility Customer Relations Rules, IDAPA 31.21.01. The Company has already agreed to this change.

**RECOMMENDATIONS**

Staff recommends that the Commission approve the following:

1. Using a 2014 test year with plant in service updated to December 31, 2015.
2. A 12% return on equity.
3. A rate base of $32,945.

4. An annual revenue requirement of $37,704, or 46.73% increase.
5. Maintaining a volume allowance of 5,500 gallons for a minimum customer charge.
6. Staff's proposed rate design.
7. A requirement that the Company install a solid state soft start on the main well pump as soon as feasible.
8. An increase in the new customer connection charge to $335.
9. A late payment fee of 1% of the past due balance at the time of the next billing statement.
10. A requirement that the Company work with Staff to revise its tariff, including rate schedules and General Rules and Regulations.
11. A requirement that the Company revise its billing statements to include first and last dates of its meter-reading period.

Respectfully submitted this 18th day of May 2016.

Daphne Huang
Deputy Attorney General

Technical Staff: Joe Terry
Bentley Erdwurm
Chris Hecht

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**Diamond Bar Estates Water Co.**
**Summary of Adjustments**
**Case No. DIA-W-15-01**

| | Company Case | Staff Adjustments 1 Plant in Service Adj | 2 Remove Bar Circle S Revenue | 3 Reclassify Expenses | 4 Deferral Apmortization | 5 Rate Case Amort (6 year) | 6 Salary Expense | 7 Water Testing Adj | 8 Power Adj | Staff Recommendation |
|---|---|---|---|---|---|---|---|---|---|---|
| Revenues | | | | | | | | | | |
| Metered Sales- Residential | 25,696 | | | | | | | | | 25,696 |
| Contributions for Construction | | | | | | | | | | - |
| Other Revenue | 642 | | (642) | | | | | | | - |
| Total Revenue | 26,338 | - | (642) | - | - | - | - | - | - | 25,696 |
| Operating Expenses | | | | | | | | | | |
| Labor Operations & Maintenance | 1,084 | | | 9,431 | | | (763) | | | 9,752 |
| Labor Admin & General | 7,325 | | | | | | (2,625) | | | 4,700 |
| Purchased Power & Fuel | 9,990 | | | (405) | | | | | (916) | 8,669 |
| Materials & Supplies - Operation & Maintenance | 6,078 | | | (5,750) | | | | | | 328 |
| Materials & Supplies - Admin & General | 6 | | | | | | | | | 6 |
| Contract Services - Professional | 456 | | | | | | | | | 456 |
| Contract Services - Water Testing | 9,731 | | | (9,431) | | | | 247 | | 547 |
| Contract Services - Other | | | | | | | | | | - |
| Rentals - Poperty & Equipment | | | | | | | | | | - |
| Cost of Construction | | | | | | | | | | - |
| Utilities/Bank Fees | 526 | | | 405 | | | | | | 931 |
| Insurance | 2,238 | | | | | | | | | 2,238 |
| Total Operating Expense | 37,434 | - | - | (5,750) | - | - | (3,388) | 247 | (916) | 27,627 |
| Depreciation Expense | 1,881 | 10 | | | | | | | | 1,891 |
| Rate Case Amortization | 1,105 | | | | | (311) | | | | 794 |
| Deferral Amortization (Pump Repairs) | | | | 5,750 | (4,013) | | | | | 1,737 |
| Regulatory Fees | 277 | | | | | | | | | 277 |
| Property Taxes | 302 | | | | | | | | | 302 |
| Total Expenses | 40,999 | 10 | - | - | (4,013) | (311) | (3,388) | 247 | (916) | 32,628 |
| Net Income | (14,661) | (10) | (642) | - | 4,013 | 311 | 3,388 | (247) | 916 | (6,932) |
| Plant in Service | 48,388 | (8,718) | | | | | | | | 39,670 |
| Accumulated Depreciation | 12,669 | (2,492) | | | | | | | | 10,177 |
| Net Plant in Service | 35,719 | (6,226) | - | - | - | - | - | - | - | 29,493 |
| Working Capital | 4,679 | - | | (719) | - | - | (424) | 31 | (115) | 3,452 |
| Rate Base | 40,398 | (6,226) | - | (719) | - | - | (424) | 31 | (115) | 32,945 |
| Revenue Req | #REF! | #REF! | - | #REF! | #REF! | #REF! | #REF! | #REF! | #REF! | |

Attachment A
Case No. DIA-W-15-01
Staff Comments
05/18/16

**Diamond Bar Estates Water Co.**
**Plant In Service**
**Case No. DIA-W-15-01**

| Acct | Plant Item | Date Placed in Service | Service Life | Historical Cost | Accumulated Depreciation | Depreciation Expense |
|---|---|---|---|---|---|---|
| 304 | Structures and Improvements | | | | | |
| | Fencing Well & Resevoir | 2006 | 20 | 8,400 | 3,780 | 420 |
| | Grounding Wire | 2014 | 20 | 1,168 | 88 | 58 |
| | Transformer Pad | 2015 | 35 | 1,663 | 24 | 48 |
| | Wire for Transformer | 2015 | 20 | 1,827 | 46 | 91 |
| 305 | Collecting & Impounding Resevoirs | | | | - | |
| | Pitless Seal | 2015 | 20 | 3,000 | 75 | 150 |
| 311 | Power Pumping Equipment | | | | | |
| | Delay Timer | 2010 | 20 | 593 | 163 | 30 |
| | Replace Booster Pump #2 | 2011 | 20 | 500 | 113 | 25 |
| | Replace Booster Pump #1 | 2012 | 20 | 2,235 | 391 | 112 |
| | Submonitor w/ Lightnign Arrestor | 2014 | 20 | 2,271 | 170 | 114 |
| | Replace Well #1 Pump | 2015 | 20 | 9,518 | 238 | 476 |
| | Lightning Arrestor | 2015 | 20 | 486 | 12 | 24 |
| | Emergency Bypass | 2015 | 20 | 482 | 12 | 24 |
| 331 | Trans. & Distrib. Mains & Acc. | | | | | |
| | Gate Valves | 2007 | 20 | 2,466 | 925 | 123 |
| | Wafer Check Valves | 2010 | 20 | 1,074 | 295 | 54 |
| 334 | Meters and Meter Installations | | | | | |
| | Flow Meters | 2006 | 10 | 2,853 | 2,711 | 142 |
| 335 | Hydrants | | | | | |
| | Hydrant Locks | 2006 | 5 | 1,135 | 1,135 | - |
| TOTAL | | | | 39,670 | 10,177 | 1,891 |

Attachment B
Case No. DIA-W-15-01
Staff Comments
05/18/16

# Diamond Bar Well Investigation

## Observation Report
## September 2015

AEI Engineering Incorporated

*Electrical and Control Systems Engineering*

AEI Engineering Incorporated

1038 W. Davidson Avenue | Coeur d'Alene, ID 83814
208.666.4001 | Fax 208.666.4021 | www.aei-engineering.com

September 23, 2015

Diamond Bar Water Co.
PO Box 1870
Hayden ID 83835-0081

Attention: Mr. Bob Turnipseed

Subject: Diamond Bar Well Investigation
Observation Report

Dear Bob:

From our conversations and historical data received, it is our understanding that the well pump located at Diamond Bar Estates has experienced problems since 2002; having to be replaced multiple times. Since November 2012, the motor has been replaced three times (Appendix C).

On August 27, 2015 AEI Engineering, Inc. made its initial site visit for the purpose of providing condition assessment and evaluation of the well house's electrical system serving the well pump. The scope of this evaluation included analysis of the utility service, surge protection devices, grounding system and pump motors.

On September 1, 2015 AEI observed the existing 6" pump motor being removed from service and exchanged with a new 8" 60 HP pump. After being removed, AEI observed the existing pump motor to have "blueing"; evidence of overheating. See appendix A. This is the fourth time the motor has been replaced since November 2012.

A complete electrical metering investigation was conducted from September 8, 2015 through September 11, 2015. AEI, KEC and United Crown Pump and Drilling were contributors and/or witnesses of this metering investigation. See appendices D, E and F.

The following summarizes the existing electrical system:

1. The facility is fed by Kootenai Electric Cooperative (KEC). The utility service is comprised of 3 single phase, 25KVA, 480V, pole mounted transformers in a corner grounded Delta configuration. The existing electrical service, a fused disconnect, is located inside the well house and is rated 200A at 480V, 3 phase. The electrical service distance from the utility transformer is over 200 ft.

2. The fused disconnect distributes three phase 480 volt power to a gutter system. The gutter system serves (1) 60 HP well pump motor combination starter, (1) 20 HP fire pump motor combination starter, (2) 3 HP booster pump motor combination starters and (1) load center via a disconnect and transformer. This gives the site a total motor load of 86 HP. All motors have across-the-line starters.

3. The well pump is monitored and protected by a Franklin Electric SubMonitor, a Square D SDSA3650 surge protection device and Delta Lightning Arrestor.

4. The grounding system is comprised of grounding electrode conductors, bonds to piping, a bond to the well case and ground rods.

5. The well pump feeder conductors between the starter and well head were replaced with 2 AWG copper conductors on September 2, 2015.

The following electrical issues were observed:

1. The starting voltage dip on the system is approximately 15 percent.

2. The only Surge Protection Device (SPD) unit installed is under sized and located in the well pump branch circuit which makes it less effective for the service entrance.

3. The current utility transformers are under sized.

    a. Per the pump manufacturer's instructions (Appendix B), the 60 HP pump needs a 75kVA transformer. Currently, the 75kVA transformer at full load can produce 90 amps. When all pumps are running, the service transformer is forced to produce roughly 115 amps; this loads the transformer to 128% rated load.
    b. The transformer is in a corner-grounded delta configuration.

4. The 60 HP well pump has a Full Voltage Non-Reversing (FVNR) or "across-the-line starter".

    a. Per the KEC electric service handbook, motors over 20 HP are required to be soft started (Appendix G).

5. The overall grounding (bonding) system is segmented and uses multiple connections, conduit, equipment supports to make an interconnected system. This method of bonding meets the minimum code requirements, however, it does not provide adequate grounding for transient events as each connection provides a source of substantial voltage differential during a transient event (lightning or power system disturbance).

6. Per NEC 230.90(B), the existing service equipment is not acceptable for the existing corner grounded Delta utility service. A breaker must be used to simultaneously open all phases (Appendix H).

7. The voltage drop from the well pump starter panel to the motor terminals was calculated to be approximately 11.8 volts (Appendix E). Therefore, when voltage at the starter panel is measured to be 471.7 volts or less, the motor is not being provided its rated voltage of 460 volts. This is shown in Appendix F.

Recommend actions to improve system protection:

1. Replace all end connectors on grounding system. Due to the sites history of lightning strikes, replacing all of the end connections of the grounding conductors will give the electrical system a more solid grounding system. This will provide increased protection from lighting and faults in the system.

2. Install a new SPD to protect the service entrance of the system in addition to the existing monitoring and protection equipment currently in use. At a minimum, provide the following SPD:

a. Service entrance protection (Square D, HWA-80KA).

3. Provide a larger 112.5 KVA, 480V/277, Wye connected service transformer. Preferably, a pad mount type located next to the building.

4. If the service is not upgraded, replace the existing service fused disconnect.

5. Replace the FVNR across-the-line starter serving the well pump with a solid state soft starter.

   a. The soft starter will not only be less stressful on the electrical system (reduced inrush current) and pump motor but will also provide a higher level of protection to the motor while running.

Several appendix sections have been included for this report:

Appendix A contains site visit pictures.

Appendix B contains well pump manufacturer's instructions (Franklin Electric).

Appendix C contains sequence of events summary logs.

Appendix D contains KEC metering data

Appendix E contains AEI Field Report – 9/8/15.

Appendix F contains AEI metering data.

Appendix G contains KEC's Electrical Service Handbook.

Appendix H contains NEC reference.

We appreciate this opportunity to provide our services to you.

Please do not hesitate to contact me if you have any questions.

Sincerely,

Ryan Litzko

Ryan Litzko, E.I.

Raymond J. Watkins

Raymond J. Watkins, P.E.

PROFESSIONAL ENGINEER REGISTERED 7871 STATE OF IDAHO RAYMOND JOSEPH WATKINS

Original Signed By:
Raymond Joseph Watkins
Dated Original Signed: 9/23/15
Original Location: AEI Engineering INC.

## APPENDIX A

**Site Visit Pictures – 9/1/15**

Figure 1: Failed 6" well pump motor

## APPENDIX B

**Well Pump Manufacturer's Instructions**

## Transformer Capacity- Single-Phase or Three-Phase

Distribution transformers must be adequately sized to satisfy the kVA requirements of the submersible motor. When transformers are too small to supply the load, there is a reduction in voltage to the motor.

Table 4 references the motor horsepower rating, single-phase and three-phase, total effective kVA required, and the smallest transformer required for open or closed three-phase systems. Open systems require larger transformers since only two transformers are used.

Other loads would add directly to the kVA sizing requirements of the transformer bank.

### Table 4 Transformer Capadty

| MOTOR RATING | | TOTAL EFFECTIVE KVA REQUIRED | SMALLEST KVA RATING-EACH TRANSFORMER | |
|---|---|---|---|---|
| HP | KW | | OPEN WYE OR DELTA 2-TRANSFORMERS | CLOSED WYE OR DELTA 3-TRANSFORMERS |
| 1.5 | 1.1 | | | |
| 2 | 1.5 | 4 | | 1.5 |
| 3 | 2.2 | 5 | | |
| 5 | 3.7 | 7.5 | | |
| 7.5 | 5.5 | 10 | 7.5 | |
| 10 | 7.5 | 15 | 10 | |
| 15 | 11 | 20 | 15 | 7.5 |
| 20 | 15 | 25 | 15 | 10 |
| 25 | 18.5 | 30 | 20 | 10 |
| 30 | 22 | 40 | 25 | 15 |
| 40 | 30 | 50 | 30 | 20 |
| 50 | 37 | 60 | 35 | *10* |
| 60 | 45 | 75 | 40 | 25 |
| 75 | 55 | 90 | 50 | 30 |
| 100 | 75 | 120 | 65 | 40 |
| 125 | 93 | 150 | 85 | 50 |
| 150 | 110 | 175 | 100 | 60 |
| 175 | 130 | *100* | 115 | 70 |
| 200 | 150 | 230 | 130 | 75 |

NOTE:Standard kVA ratings are shown. If power company experience and practice allows transformer loading higher than standard, higher loading values may be used to meet total effective kVA required, provided correct voltage and balance is maintained.

## Effects of Torque

During starting of a submersible pump, the torque developed by the motor must be supported through the pump, delivery pipe or other supports. Most pumps rotate in the direction which causes unscrewing torque on right-handed threaded pipe or pump stages. All threaded joints, pumps and other parts of the pump support system must be capable of withstanding the maximum torque repeatedly without loosening or breaking. Unscrewing joints will break electrical cable and may cause loss of the pump-motor unit.

To safely withstand maximum unscrewing torques with a minimum safety factor of 1.5, tightening all threaded joints to at least 10 lb-ft per motor horsepower is recommended (Table 4A). It may be necessary to tack or strap weld pipe joints on high horsepower pumps, especially at shallower settings.

### Table 4A Torque Required (Examples)

| MOTOR RATING | | MINIMUM SAFE TORQUE-LOAD |
|---|---|---|
| HP | KW | |
| 1 hp & Less | 0.75 kW & Less | 10 lb-ft |
| 20 hp | 15 kW | 200 lb-ft |
| 75 hp | 55 kW | 750 lb-ft |
| 200 hp | 150 kW | *1000* lb-ft |

## APPENDIX C

**Sequence of Events Summary Log**

# Diamond Bar Well Pump Service Record

- 8/2002 Pulled 6" 50hp (failure unknown) replaced motor & #2 flat jacked wire.
- 8/2004 Pump unscrewed from the pipe. Upgraded from a 50hp motor to a 6" 60hp motor and a Berkeley 8T-500 pump.
- 8/2011 Phase to ground short on the B phase of the well pump panel. Replaced breaker and starter.
- 6/2012 Well pump tripped overload on starter. Metered pump and everything checked out ok.
- 8/2012 The C-Phase of power blew two days in a row at Rob's house. Kootenai Electric Cooperative replaced the transformer.
- 11/2012 Motor was shorted to ground and had open windings. Replaced motor only.
- 8/2013 Motor was again shorted to ground. Replaced motor only. Sent back to the factory for inspection. See report.
- 8/2014 Motor was again shorted to ground. Replaced motor only. Sent back to the factory for inspection. See report.
- 9/2014 Discovered a bad neutral lug in the utility meter. KEC to repair. Also installed Franklin's Sub-Monitor.
- 6/2015 C-Phase fuse blown on the transformer. KEC repaired. While waiting for KEC to show up we metered the well pump and discovered a short. No faults where recorded on the Sub- Monitor and the reservoir was full. Sent back to the factory for inspection. See report.
- 6/2015 The C-Phase of power had blown a fuse in the pump house at Robs
- 8/2015 Short to ground down hole. Sub-Monitor recorded 4 unbalanced current faults before shorting out.

Note: the items in RED are from Rob's well site.

KootenaiElectric
COOPERATIVE
A Touchstone Energy® Cooperative

September 8, 2015

Mr. Richard Agueros
United Crown Pump and Drilling
2125 W. Hayden Ave
Hayden, ID 83835

Re: Outages Affecting Diamond Bar Estates Well Pump Service

Dear Mr. Agueros:

Thank you for the service record information you sent over for the Diamond Bar Estates well pump and Rob Turnipseed's well pumps. Many of the service dates you provided do not correlate with any KEC outages. Information prior to 2007 on our outage management system is not as complete so I will limit my comments on system outages affecting those two services from 2007 to today.

**We show the following outages impacting both well sites:**

| | |
|---|---|
| 1/27/2008 | Tree fell across power line tripping substation breaker |
| 6/17/2008 | Car hit power pole tripping substation breaker |
| 8/21/2012 | Lighting hit power line tripping substation breaker |
| 7/7/2014 | Small animal got into power line and started pole fir e tripped substation breaker |
| 6/30/2015 | Car hit power pole tripping substation breaker |

**Outages that only impacted the Diamond Bar Estates Well Site:**

| | |
|---|---|
| 8/23/2014 | Dump truck with its bed up hit power lines |
| 5/8/2015 | Scheduled outage for work on tap to well site. |
| 6/10/2015 | Blown Fuse on Transformer Bank – Re-fused (Pump Bad) |

**Outages impacting only Rob Turnipseed's well service:**

| | |
|---|---|
| 8/21/2012 | Lighting strike nearby blew fuse on transformer, re-fused |
| 8/22/2012 | Replaced transformer. Transformer damaged by lightning strike |
| 8/2/2014 | Transformer hit by lighting. Transformer replaced |
| 5/4/2015 | Scheduled maintenance for work on tap to well site. |

Also, I checked with our technician regarding who performed the repairs on the bad meter base neutral lug on 9/3/2014. He indicated that it was United Crown's electrician as meter bases are member owned equipment and repairs to them are the responsibility of the member.

2451 W. Dakota Ave. • Hayden, Idaho 83835 • (208) 765-1200 • Fax (208) 772-5852 • (800) 240-0450

Mr. Richard Agueros
Page 2 of 2

We plan on retrieving our monitoring equipment on Friday September 11th. We will share the results once the test equipment is downloaded and reports printed out. Dave Kahly our Chief Engineer will forward this information to you and AEI early next week as I will be out on vacation.

Best Regards,

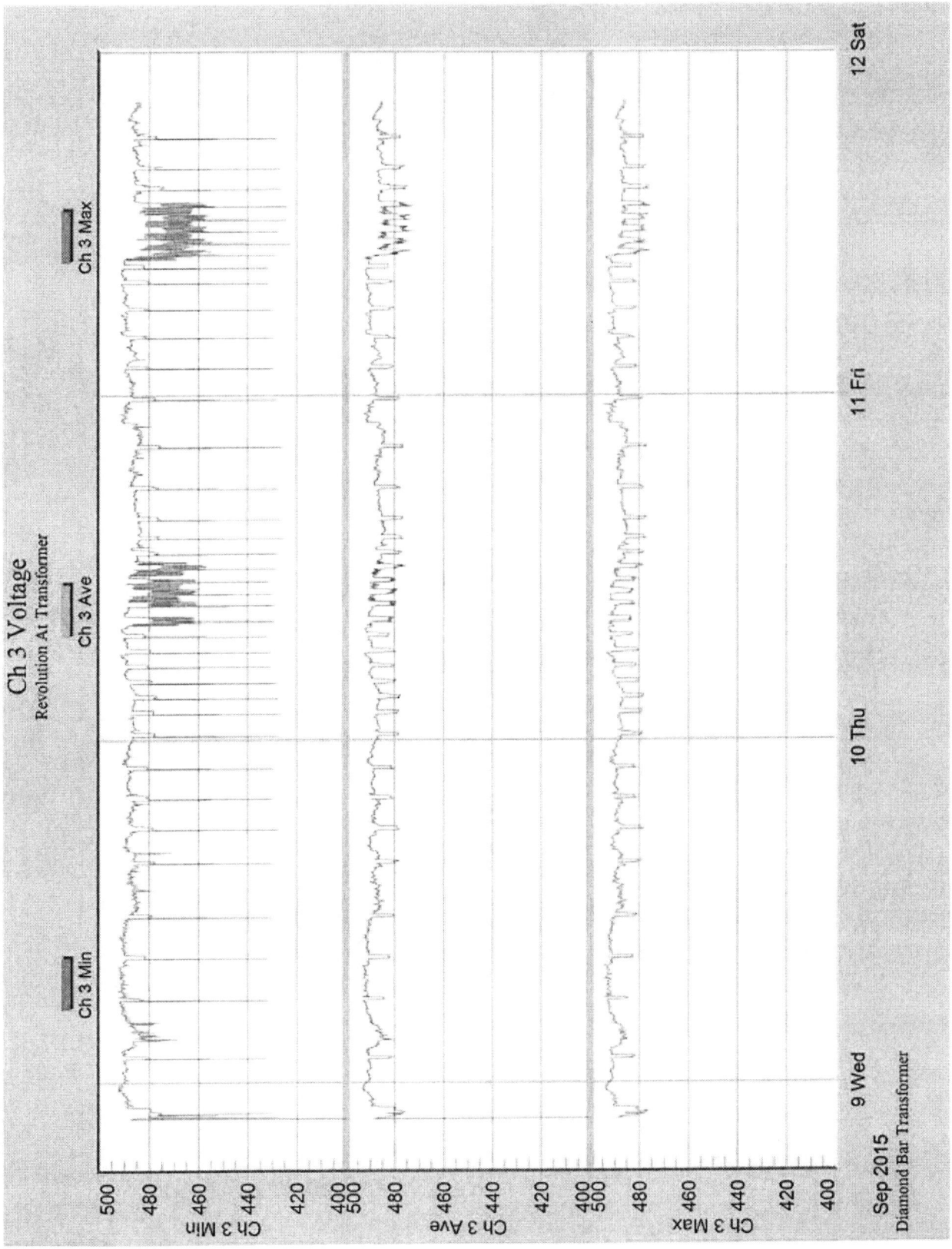
Shawn Dolan, P.E.
Manager of Engineering

Cc: Ray Watkins, AIE Engineering
Enclosures

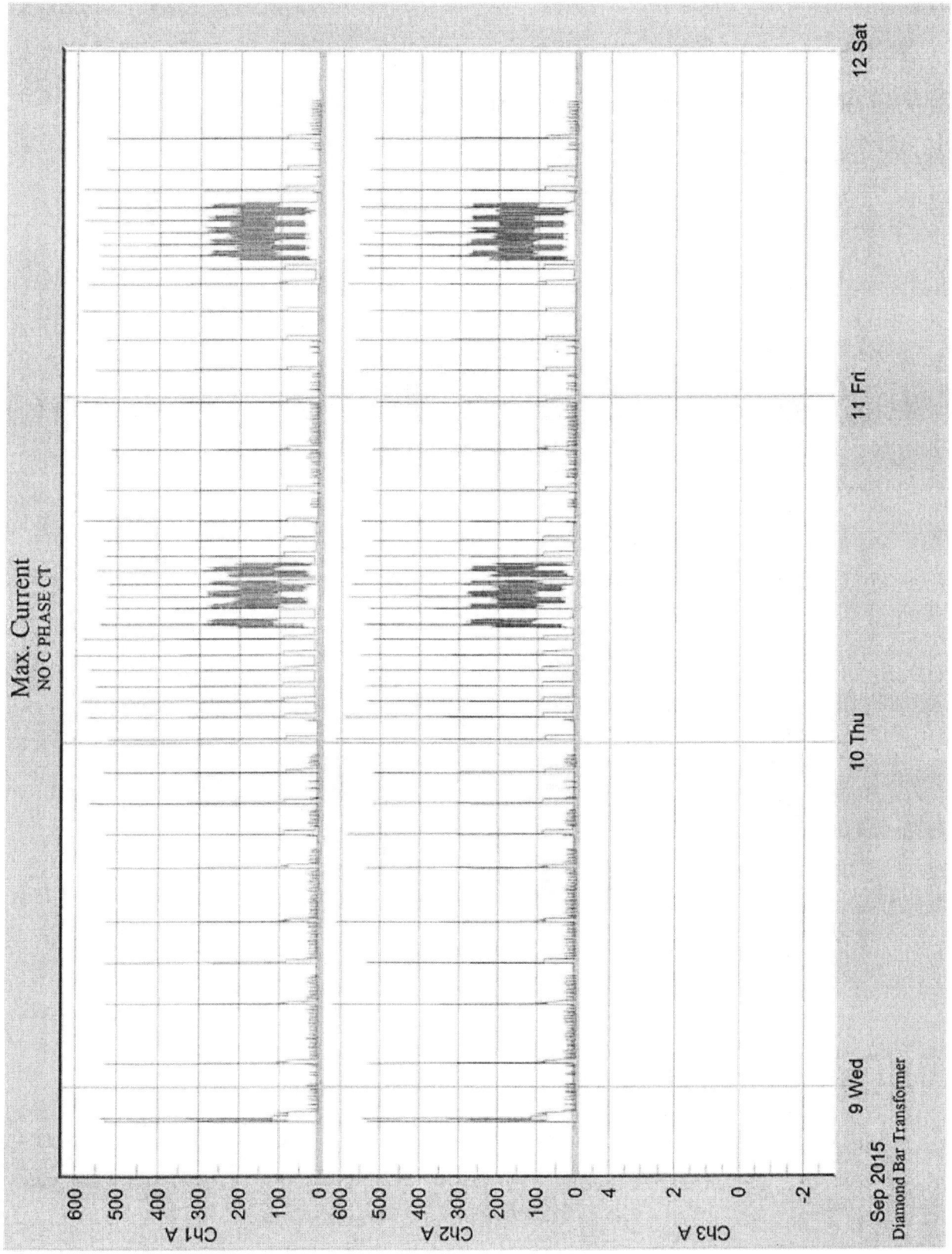
## APPENDIX D

**KEC Metering Data – 9/8/15 to 9/11/15**

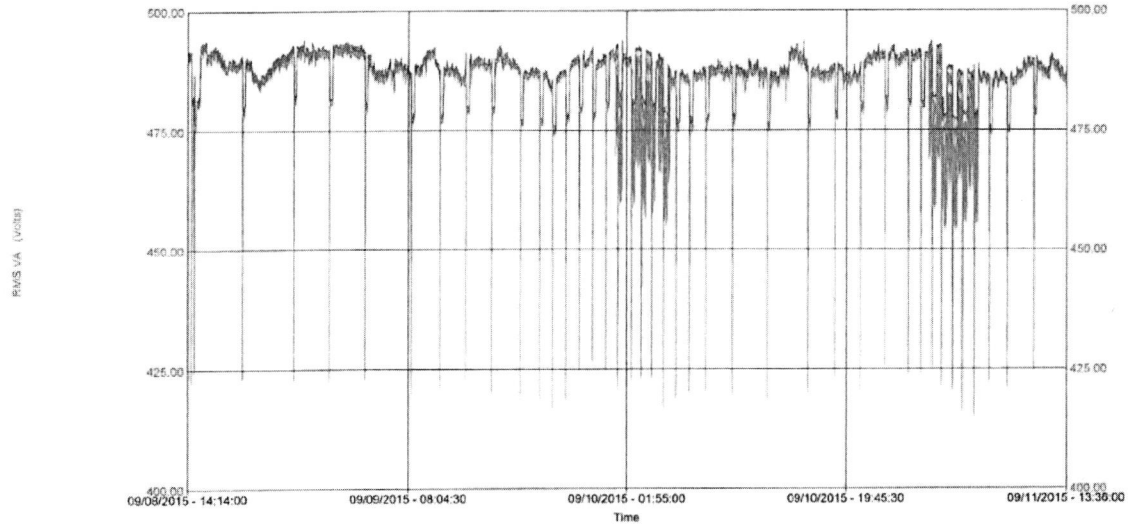
**Revolution at Transformer – Page 1 of 2**

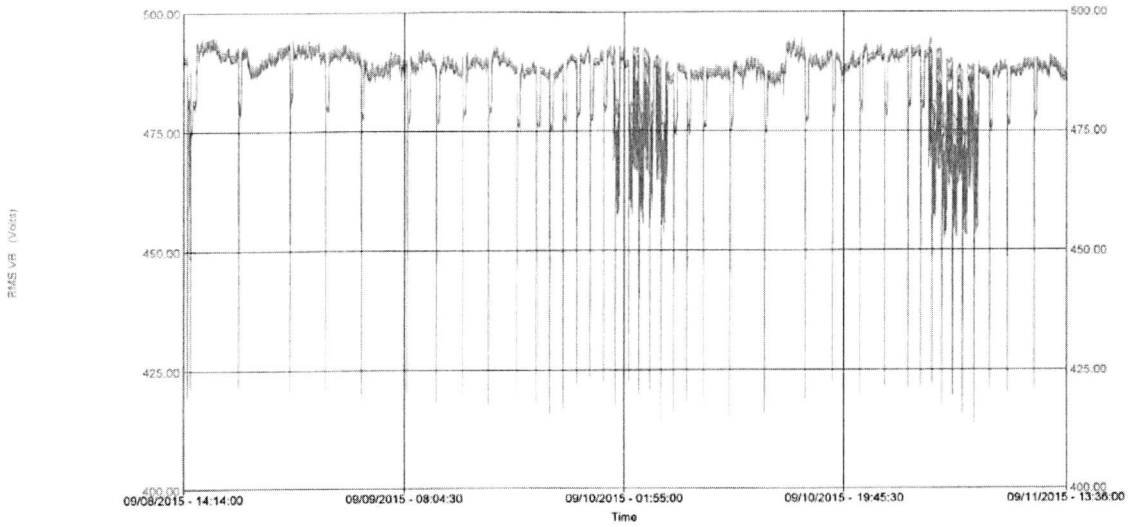


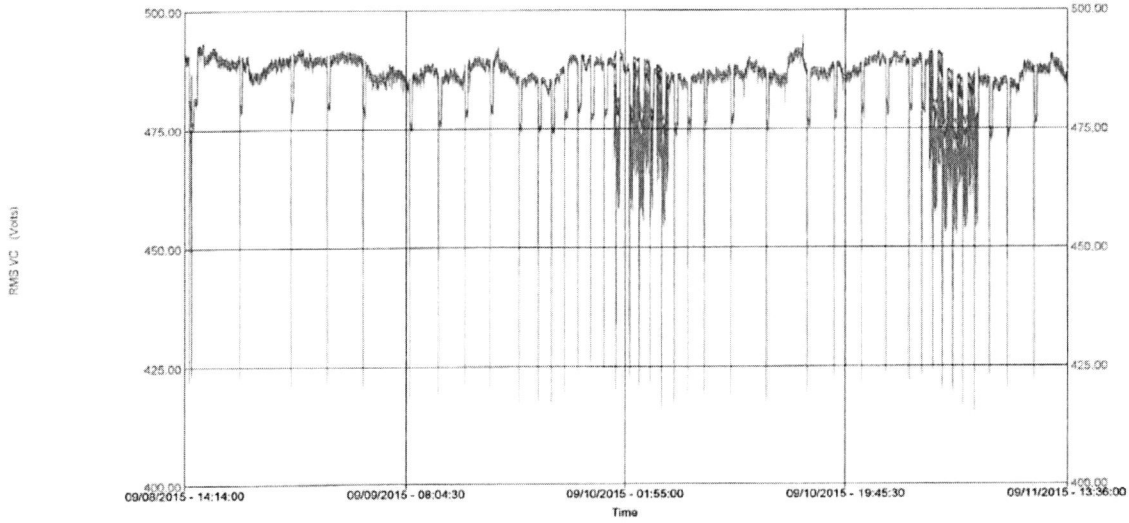
**Revolution at Transformer – Page 2 of 2**



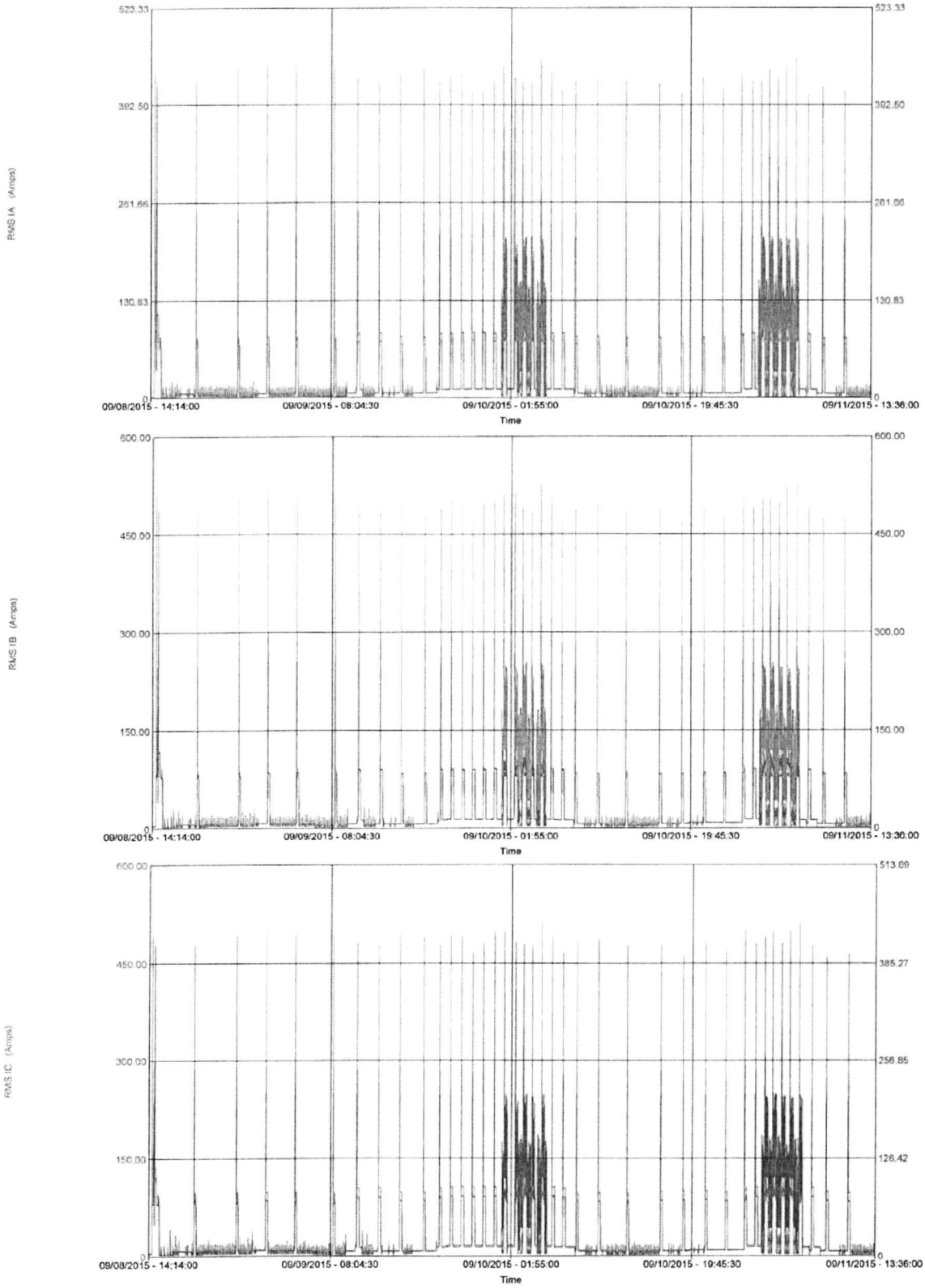
## SLM-8 Recorder – Page 1 of 2



## SLM-8 Recorder – Page 2 of 2

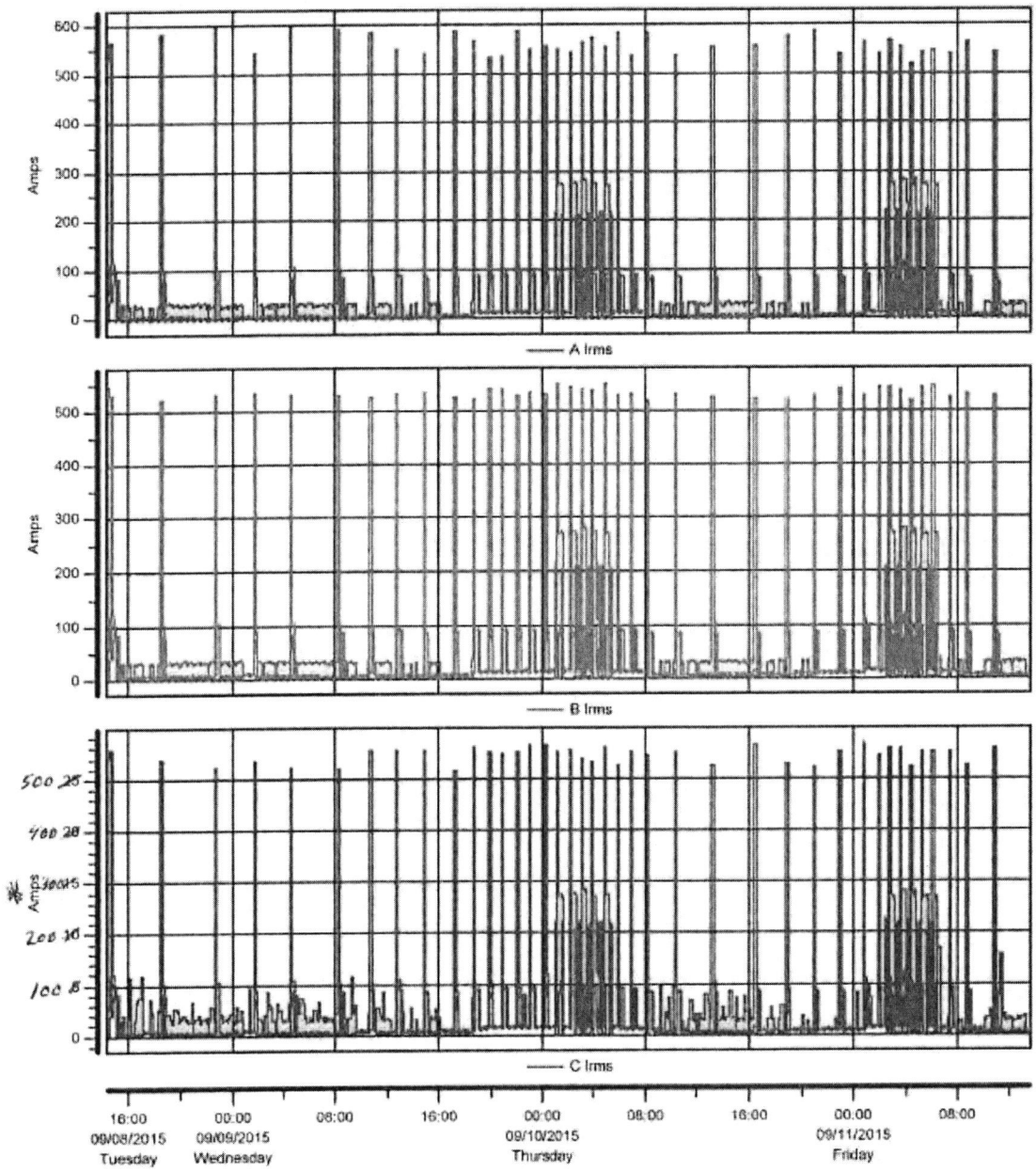


PX5 RECORDER
AT SERVICE PANEL
◊ BARWELL HOUSE

Date: 09/11/2015 Page 1
Issued by:
Filename: Power Xplorer Site_03

## CURRENT TIMEPLOTS

Site: Power Xplorer Site
Measured from 09/08/2015 14:30:00.0 to 09/11/2015 13:35:00.0




* CORRECTED CT MULTIPLIER

**PX5 Recorder – Page 2 of 7**

PX5 RECORDER
AT SERVICE PANEL
◇ BAR WELL HOUSE

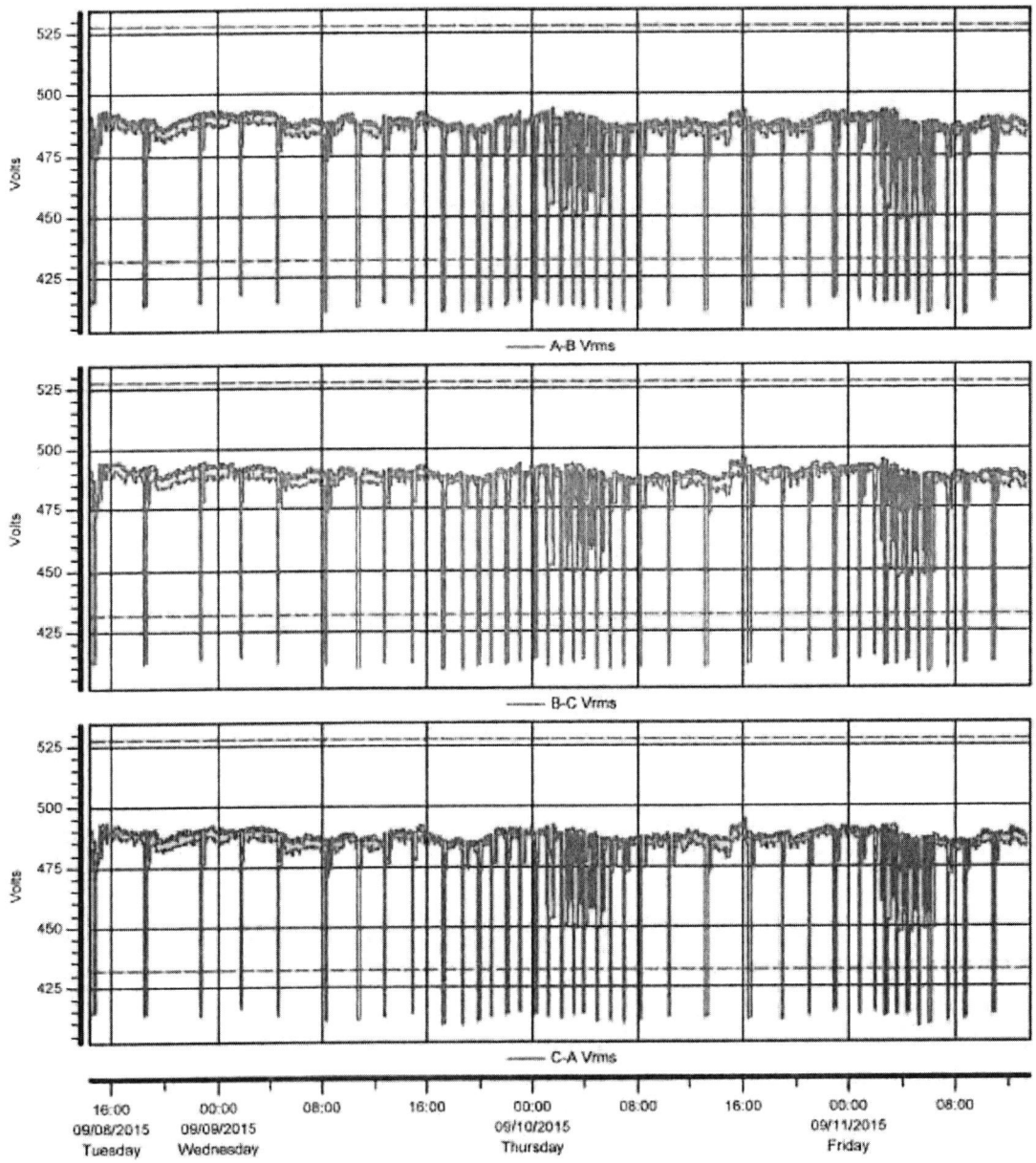
Date
09/11/2015 Page 2

Issued by

Filename
Power Xplorer Site_03

## VOLTAGE TIMEPLOTS

Site: Power Xplorer Site
Measured from 09/08/2015 14:30:00.0 to 09/11/2015 13:35:00.0



| | | |
|---|---|---|
| | | Date<br>09/11/2015 Page 3 |
| | | Issued by |
| | | Filename<br>Power Xplorer Site_03 |

## WORST CASE SUMMARY

Site: Power Xplorer Site
Measured from 09/08/2015 14:30:00.0 to 09/11/2015 13:35:00.0

Of 41 total VOLTAGE SAGS

| CRITERIA | PHASE | CATEGORY | DATA | DATE/TIME |
|---|---|---|---|---|
| Lowest Magnitude | B-C | INSTANTANEOUS | 407.8V, 0.108 Sec. | 09/11/2015 05:13:33.47 |
| | B-C | INSTANTANEOUS | 407.9V, 0.108 Sec. | 09/11/2015 06:09:49.34 |
| | B-C | INSTANTANEOUS | 409.4V, 0.108 Sec. | 09/09/2015 18:47:48.93 |
| | B-C | INSTANTANEOUS | 409.4V, 0.100 Sec | 09/10/2015 05:53:58.20 |
| Longest Duration | A-B | INSTANTANEOUS | 407.8V, 0.108 Sec. | 09/11/2015 05:13:33.47 |
| | A-B | INSTANTANEOUS | 410.0V, 0.108 Sec. | 09/10/2015 06:58:56.01 |
| | A-B | INSTANTANEOUS | 407.9V, 0.108 Sec. | 09/11/2015 06:09:49.34 |
| | A-B | INSTANTANEOUS | 409.4V, 0.108 Sec. | 09/09/2015 18:47:48.93 |
| Most Energy Missing | A-B | INSTANTANEOUS | 409.4V, 0.108 Sec. | 09/09/2015 18:47:48.93 |
| | A-B | INSTANTANEOUS | 410.0V, 0.108 Sec. | 09/10/2015 06:58:56.01 |
| | A-B | INSTANTANEOUS | 407.9V, 0.108 Sec. | 09/11/2015 06:09:49.34 |
| | A-B | INSTANTANEOUS | 407.8V, 0.108 Sec. | 09/11/2015 05:13:33.47 |

Of 0 total VOLTAGE SWELLS

| CRITERIA | PHASE | CATEGORY | DATA | DATE/TIME |
|---|---|---|---|---|

Of 0 total VOLTAGE INTERRUPTIONS

| CRITERIA | PHASE | CATEGORY | DATA | DATE/TIME |
|---|---|---|---|---|

Of 348 total VOLTAGE TRANSIENTS

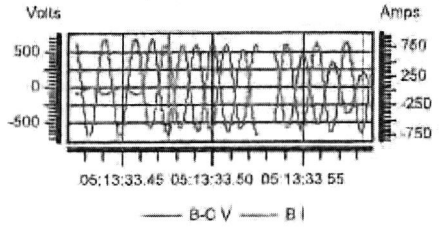
| CRITERIA | PHASE | DATA | DATE/TIME |
|---|---|---|---|
| Largest Magnitude | A-B | 310.4V, 0.000 Sec. | 09/09/2015 02:40:54.11 |
| | A-B | 298.0V, 0.000 Sec. | 09/09/2015 02:40:57.86 |
| | A-B | 295.7V, 0.000 Sec. | 09/09/2015 02:40:55.46 |
| | A-B | 285.1V, 0.000 Sec. | 09/11/2015 01:18:55.89 |

| | | |
|---|---|---|
| | | Date: 09/11/2015 Page 4 |
| | | Issued by: |
| | | Filename: Power Xplorer Site_03 |

## WORST CASE SUMMARY WAVEFORMS

Site: Power Xplorer Site
Measured from 09/08/2015 14:30:00.0 to 09/11/2015 13:35:00.0

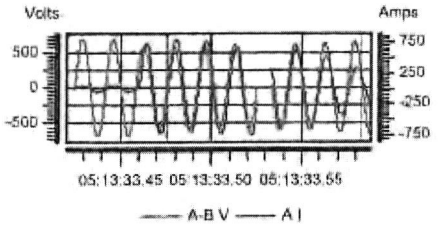
Lowest Magnitude Voltage Sag: Phase B-C
Instantaneous 407.8V,0.108 Sec., on 09/11/2015 05:13:33.47




Highest Magnitude Voltage Swell:No event

**NO WAVEFORM AVAILABLE**

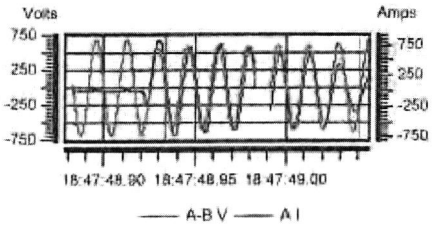
Longest Duration Voltage Sag: Phase A-B
Instantaneous 407.8V,0.108 Sec., on 09/11/2015 05:13:33.47




Longest Duration Voltage Swell:No event

**NO WAVEFORM AVAILABLE**

Most Energy Missing Voltage Sag: Phase A-B
Instantaneous 409.4V,0.108 Sec., on 09/09/2015 18:47:48.93



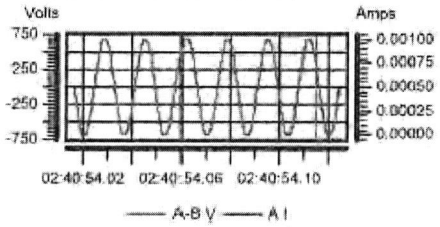

Most Energy Added Voltage Swell:No event

**NO WAVEFORM AVAILABLE**

Longest Duration Voltage Interruption:No event

**NO WAVEFORM AVAILABLE**

Largest Magnitude Voltage Transients: Phase A-B
310.4V,0.000 Sec., on 09/09/2015 02:40:54.11



| | | |
|---|---|---|
| | | Date<br>09/11/2015 Page 5 |
| | | Issued By |
| | | Filename<br>Power Xplorer Site_03 |

## MIN/MAX/AVG SUMMARY REPORT

Site: Power Xplorer Site
Measured from 09/08/2015 14:30:00.0 to 09/11/2015 13:35:00.0

### VOLTAGE

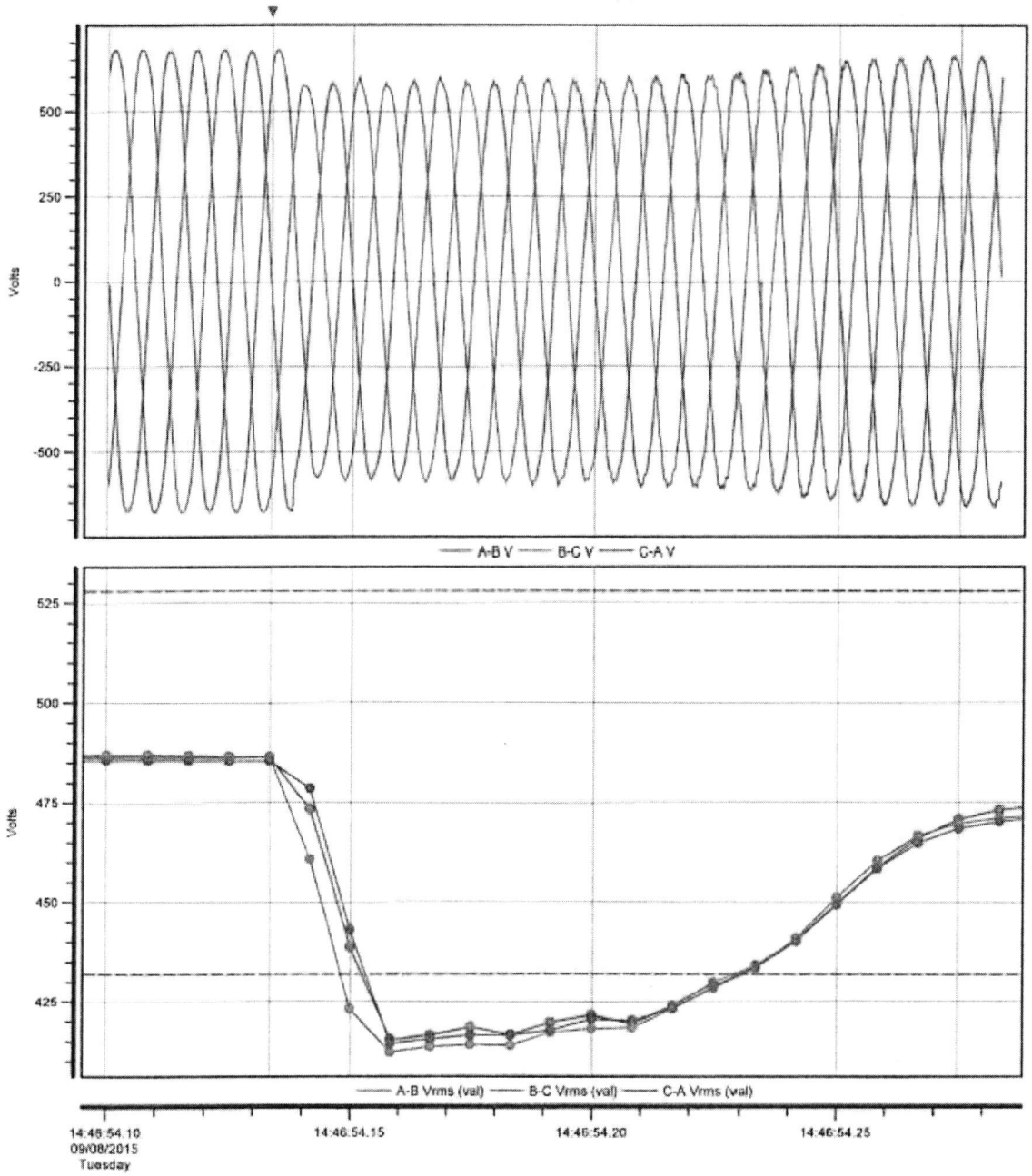
| | Channel A | Channel B |
|---|---|---|
| Min Volts | 235.94 on 09/11/2015 05:20:00 | 235.56 on 09/11/2015 05:20:00 |
| Max Volts | 284.29 on 09/10/2015 16:20:00 | 285.06 on 09/11/2015 02:50:00 |
| Median Volts | 279.99 | 281.34 |
| Average Volts | 279.67 | 280.85 |
| | **Channel C** | **Channel A-B** |
| Min Volts | 236.47 on 09/11/2015 05:20:00 | 409.9 on 09/11/2015 05:20:00 |
| Max Volts | 287.47 on 09/10/2015 16:20:00 | 493.7 on 09/10/2015 01:40:00 |
| Median Volts | 282.74 | 487.1 |
| Average Volts | 282.15 | 486.5 |
| | **Channel B-C** | **Channel C-A** |
| Min Volts | 407.8 on 09/11/2015 05:20:00 | 408.6 on 09/11/2015 05:20:00 |
| Max Volts | 495.6 on 09/10/2015 16:20:00 | 494.7 on 09/10/2015 16:20:00 |
| Median Volts | 488.5 | 486.3 |
| Average Volts | 487.4 | 485.6 |

### CURRENT

| | Channel A | Channel B |
|---|---|---|
| Min Amps | 0.1 on 09/09/2015 07:00:00 | 1.5 on 09/10/2015 15:00:00 |
| Max Amps | 597.7 on 09/09/2015 04:40:00 | 551.1 on 09/10/2015 05:00:00 |
| Median Amps | 5.5 | 6.5 |
| Average Amps | 18.8 | 20.6 |
| | **Channel C** | |
| Min Amps | 0.086 on 09/10/2015 11:40:00 | |
| Max Amps | 28.405 on 09/11/2015 00:50:00 | |
| Median Amps | 0.377 | |
| Average Amps | 1.079 | |

| | | |
|---|---|---|
| | | Date<br>09/15/2015 Page 1 |
| | | Issued by |
| | | Filename<br>Power Xplorer Site_03 |

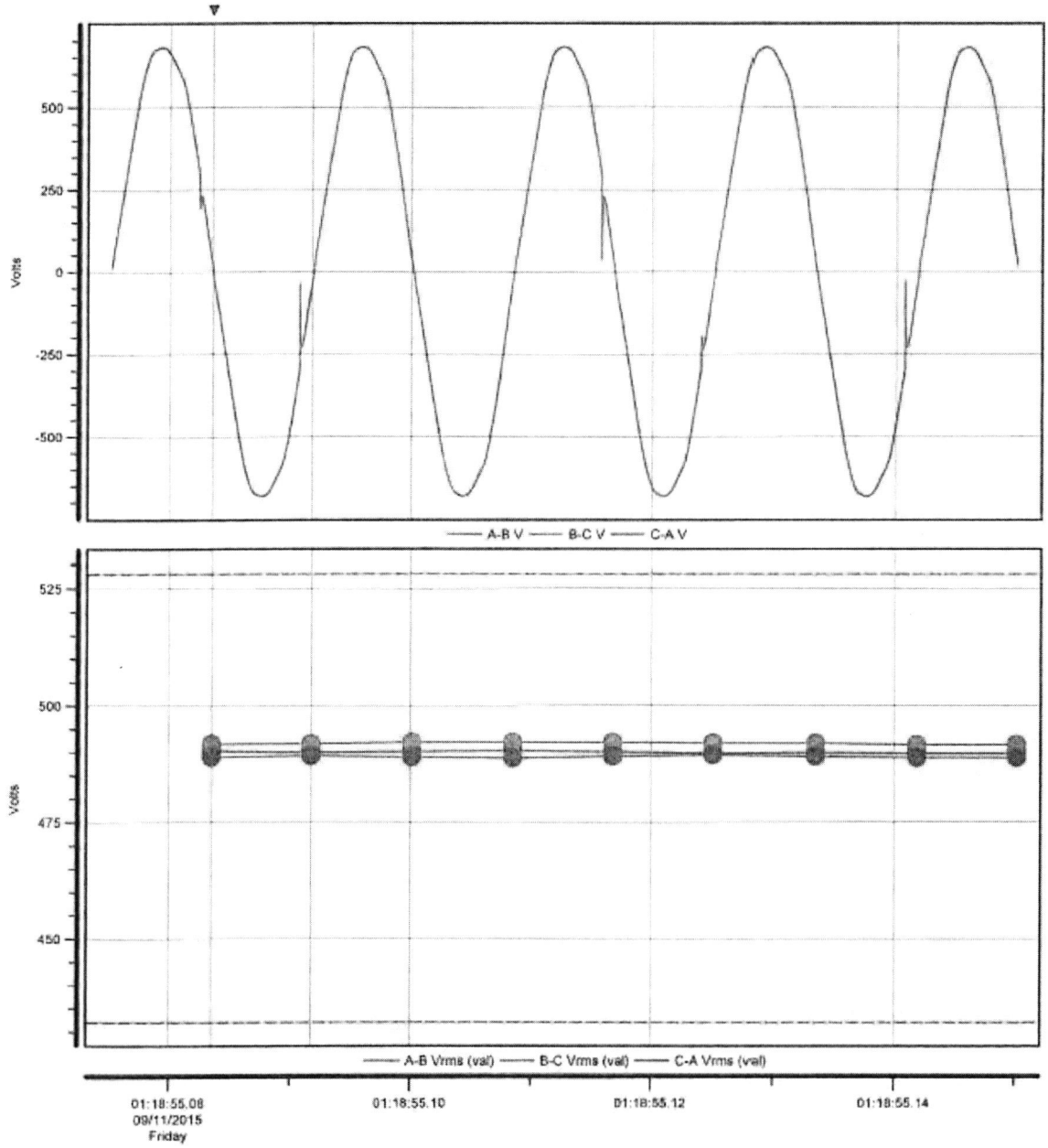
## Event Details/Waveforms




Event #47 at 09/08/2015 14:46:54.133
AI Misc
CATEGORY: Transient
Phase -31.48 Deg

| | | |
|---|---|---|
| | | Date<br>09/15/2015 Page 1 |
| | | Issued by |
| | | Filename<br>Power Xplorer Site_03 |

## Event Details/Waveforms




Event #7984 at 09/11/2015 01:18:55.083

A-BV HF

| | D | A | B | C | A-B | B-C | C-A |
|---|---|---|---|---|---|---|---|
| Vrms | 0.04562 | | | | 490.0 | 491.8 | 489.2 |
| VPeak | 0.2052 | | | | 680.9 | 687.0 | 684.2 |
| Irms | 0.000277 | 10.91 | 13.02 | 0.7678 | | | |
| IPeak | 0.000839 | 16.18 | 18.18 | 2.906 | | | |

**APPENDIX E**

**AEI Field Report – 9/8/15**

AEI Engineering Incorporated
1038 W. Davidson Avenue | Coeur d'Alene, ID 83814
208.666.4001 | Fax 208.666.4021 | www.aei-engineering.com

# Field Report

| | |
|---|---|
| **PROJECT NUMBER:** | M15112 |
| **PROJECT DESCRIPTION:** | Diamond Bar Well Investigation |
| **ENGINEER:** | Ryan Litzko, E.I. |
| **DATE OF VISIT:** | 9/8/2015 |

Voltage and current measurements taken are summarized below:

| Meter: Fluke 26 III True RMS | | Vab (Ia) | Vbc (Ib) | Vca (Ic) |
|---|---|---|---|---|
| Measured Load | No load | 496 (n/a) | 496 (n/a) | 494 (n/a) |
| | Well Pump | 485 (75) | 484 (79) | 485 (79) |
| | All Pumps | 480 (112) | 480 (116) | 481 (117) |
| | All But Well Pump | 481 (113) | 480 (116) | 481 (116) |

| Meters: PX-5 & Metrosonics | | Vab (Ia) | Vbc (Ib) | Vca (Ic) |
|---|---|---|---|---|
| Measured Load | All Pumps | 476 (-) | 476 (-) | 475 (-) |

A voltage drop calculation through the roughly 450 ft, 2 AWG Cu wire from the pump panel to the pump motor was conducted and resulted in a 11.8 V loss. Combining the voltage drop calculations with the voltage readings gathered at the well house start up on 9/8/15, the following can be concluded.

Best case scenario: Measured from Kootenai's Fluke Model 26III

A. Voltage at panel when all pumps are running is 480V
B. Projected voltage at well pump terminals would be 468.2V

Worst case scenario: Measured from PX-5 and Metrosonics Recorders

A. Voltage at panel when all pumps are running is 475V
B. Projected voltage at well pump terminals would be 463.2V

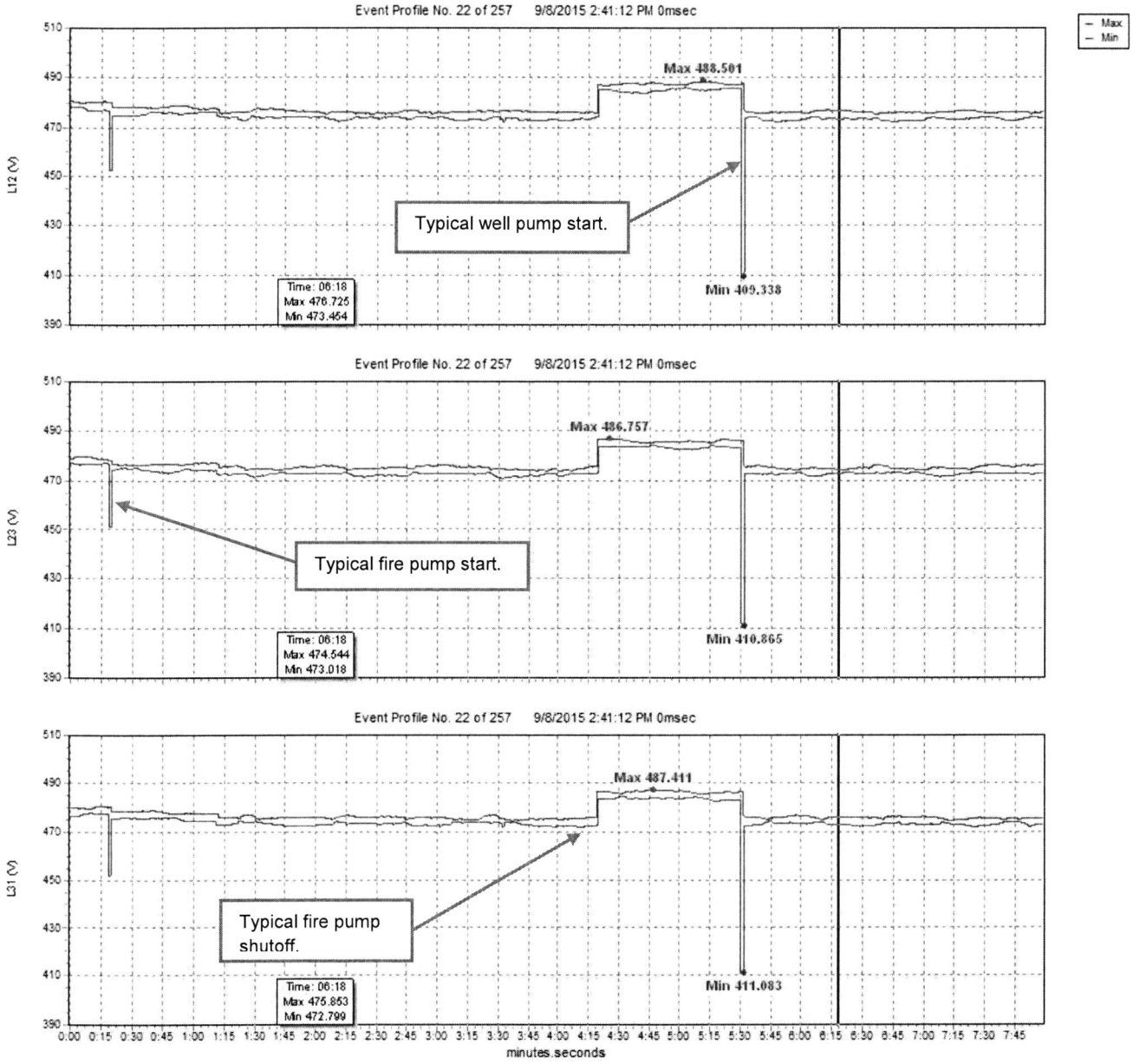
Both seem to give tolerant voltage levels at the motor terminals.

## APPENDIX F

**AEI Metering Report – 9/8/15 to 9/11/15**

**AEI Metering Report:** Per Appendix E, AEI Field Report, the voltage drop from the well pump starter panel to the motor terminals was calculated to be approximately 11.8 volts. Therefore, when voltage at the starter panel is measured to be 471.7 volts or less, the motor is not being provided its rated voltage of 460 volts. Sustained voltage sags below the motor's voltage rating will be indicated in the following pages by a RED rectangle. Note that sustained voltage sagging occurs on the last day of recording. Other indications will be explained via text box.

**Fluke 1735 Power Logger Recorder – Page 1 of 22**



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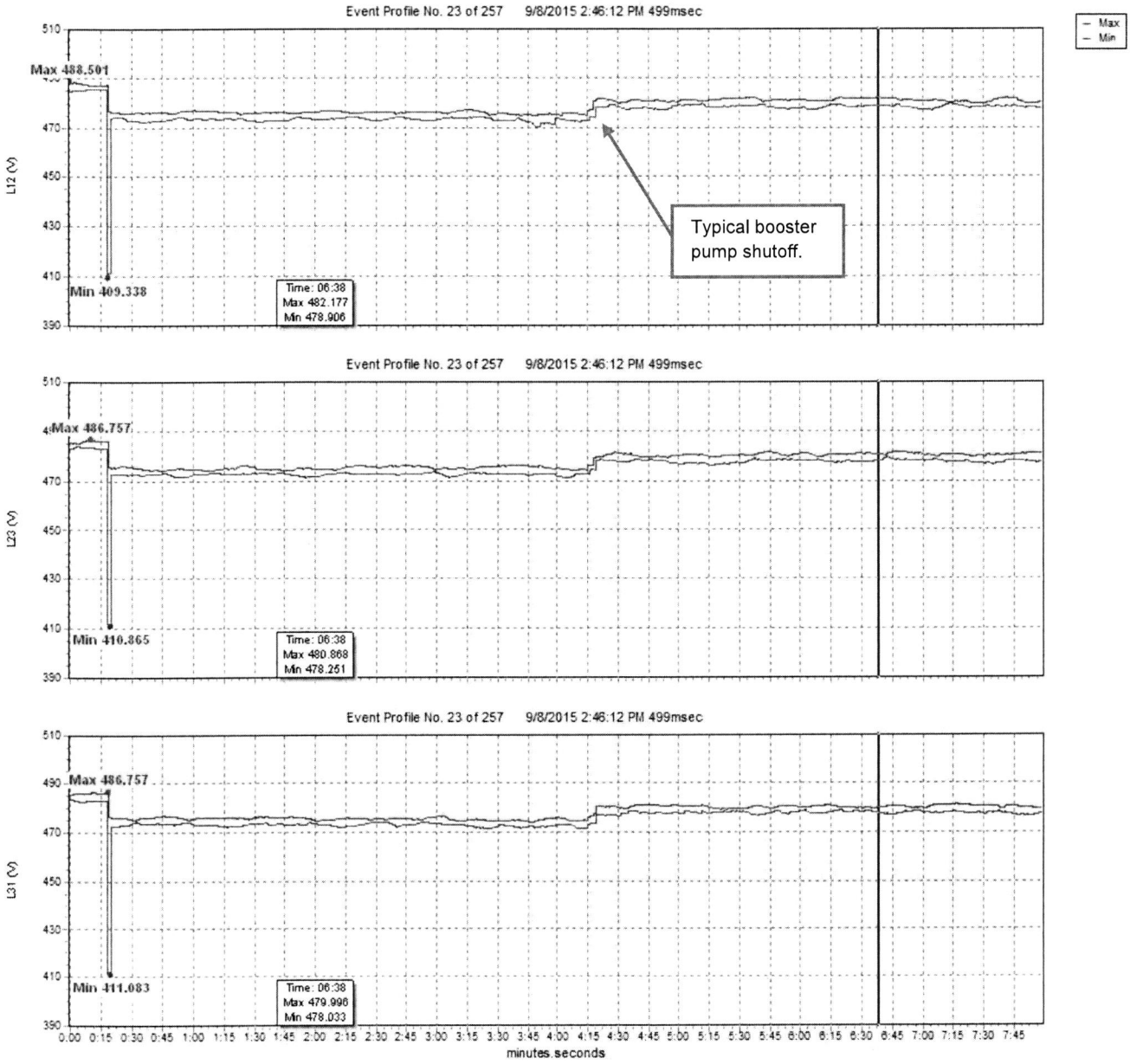

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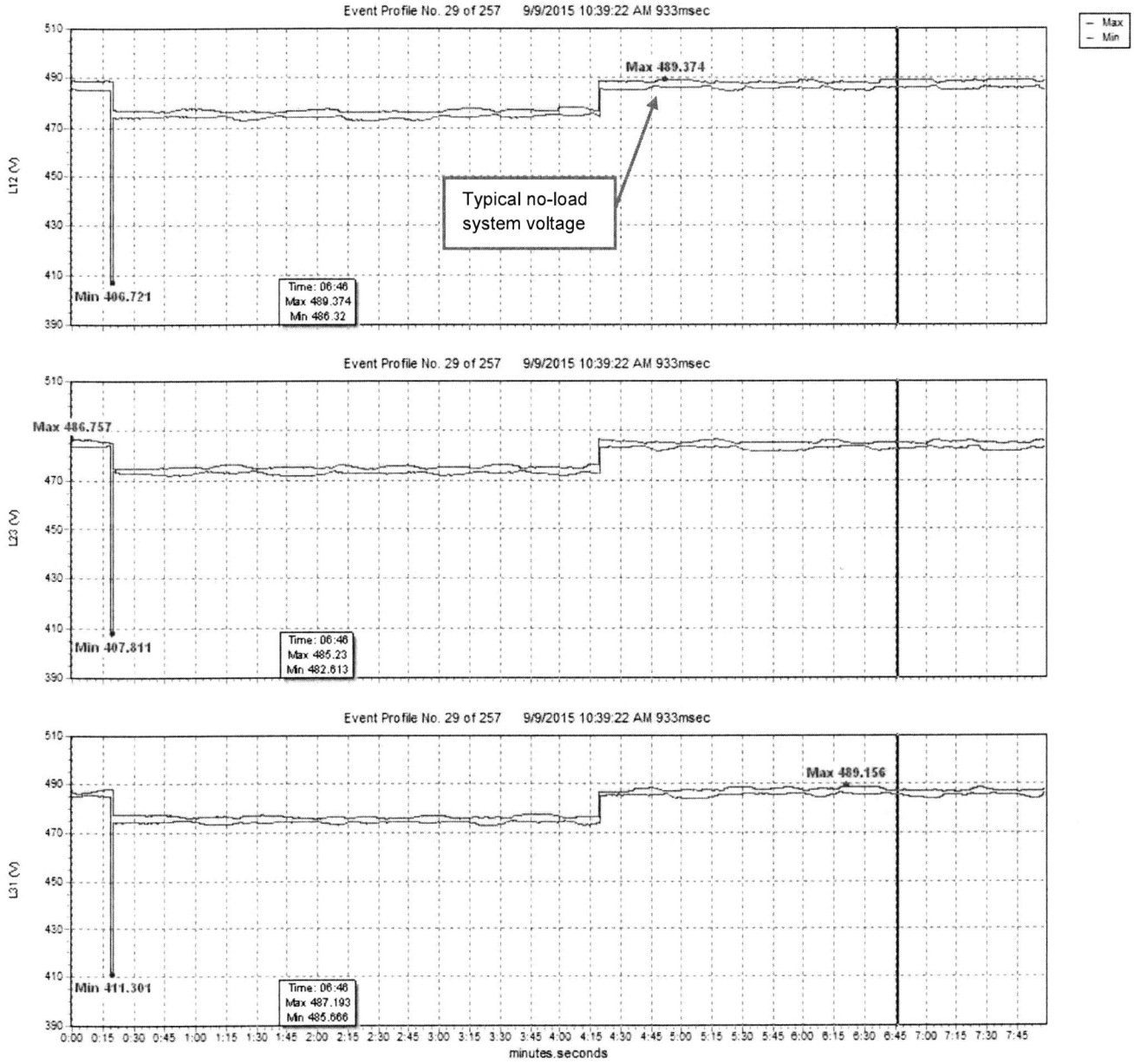

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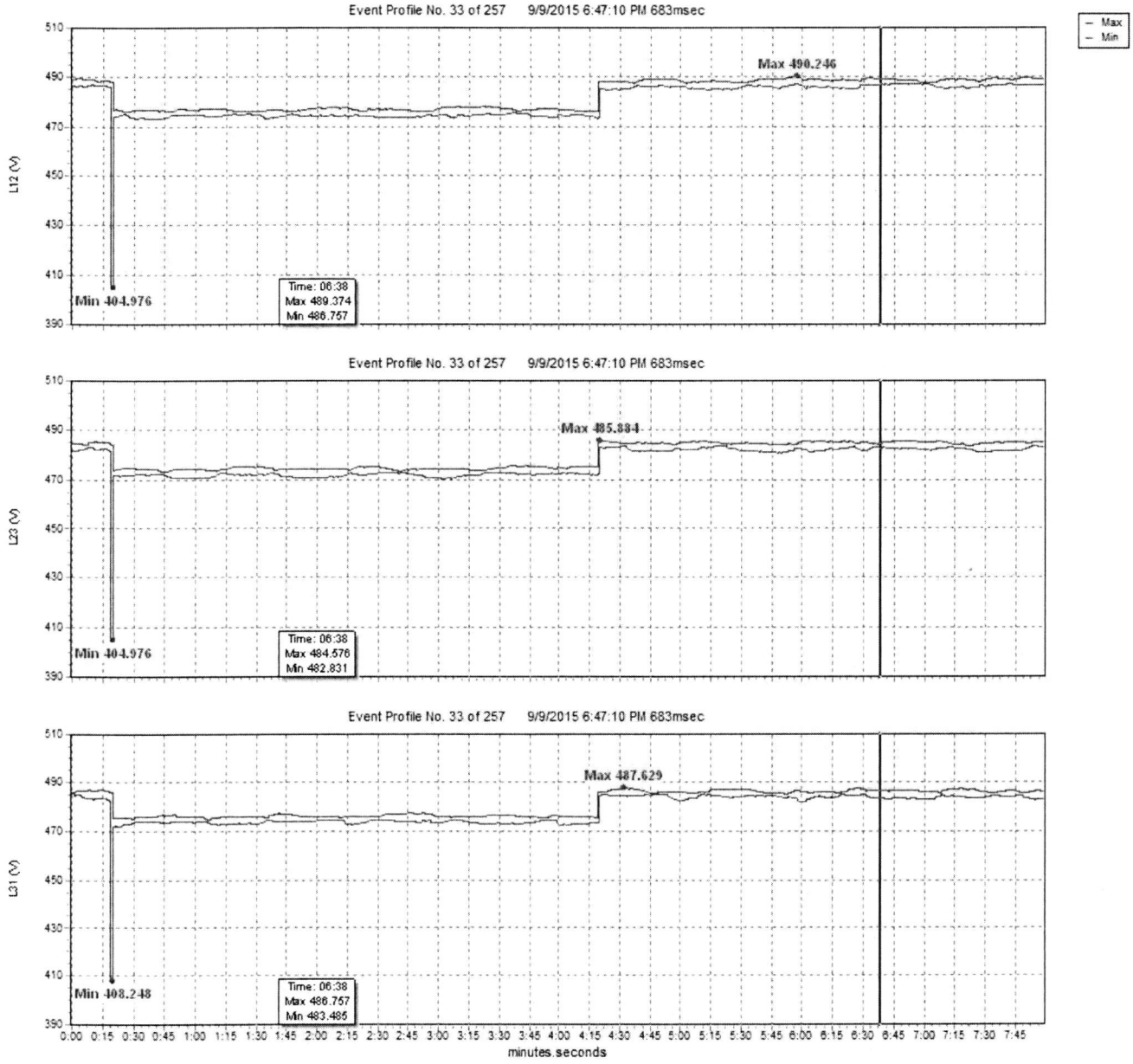

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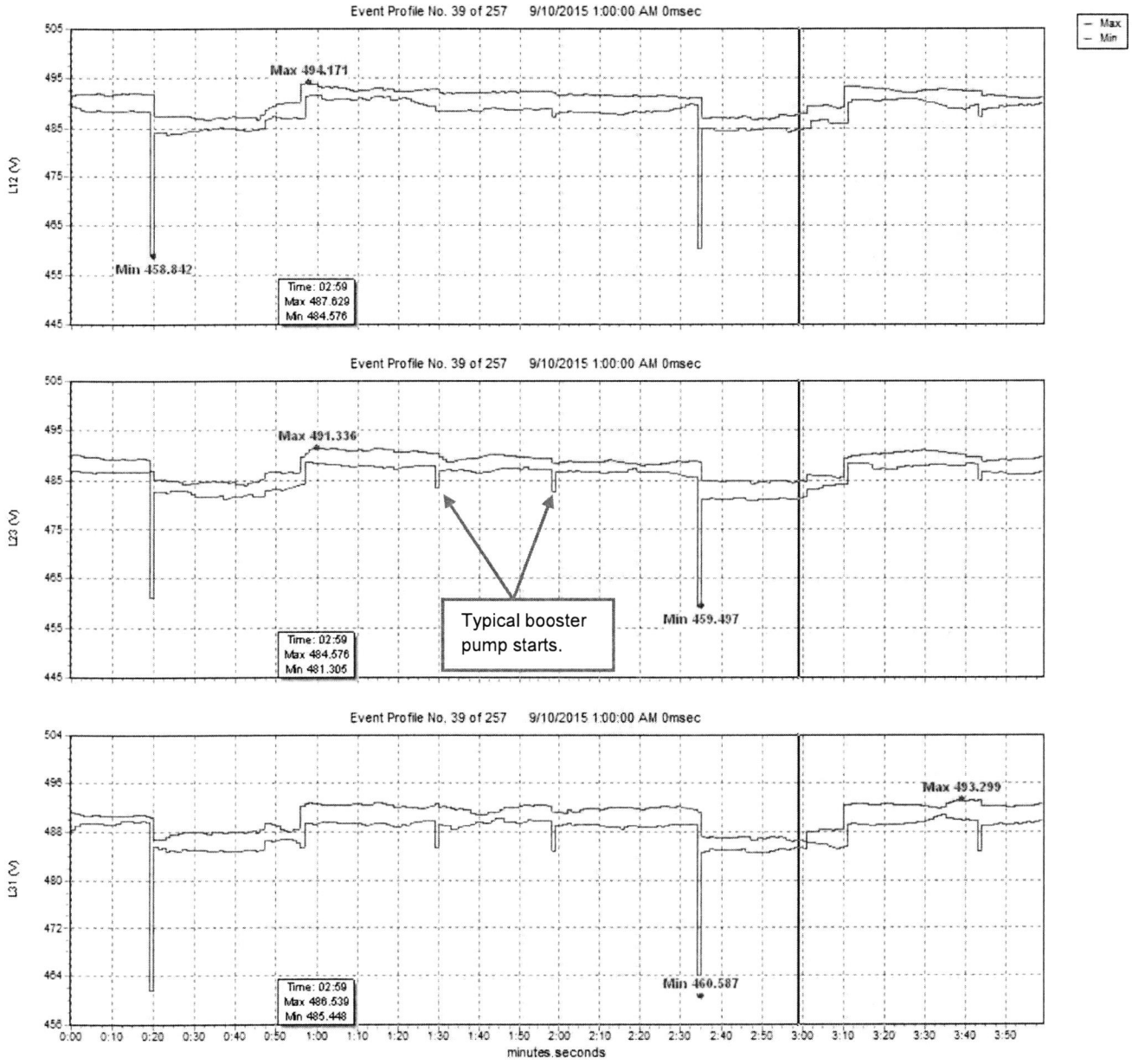

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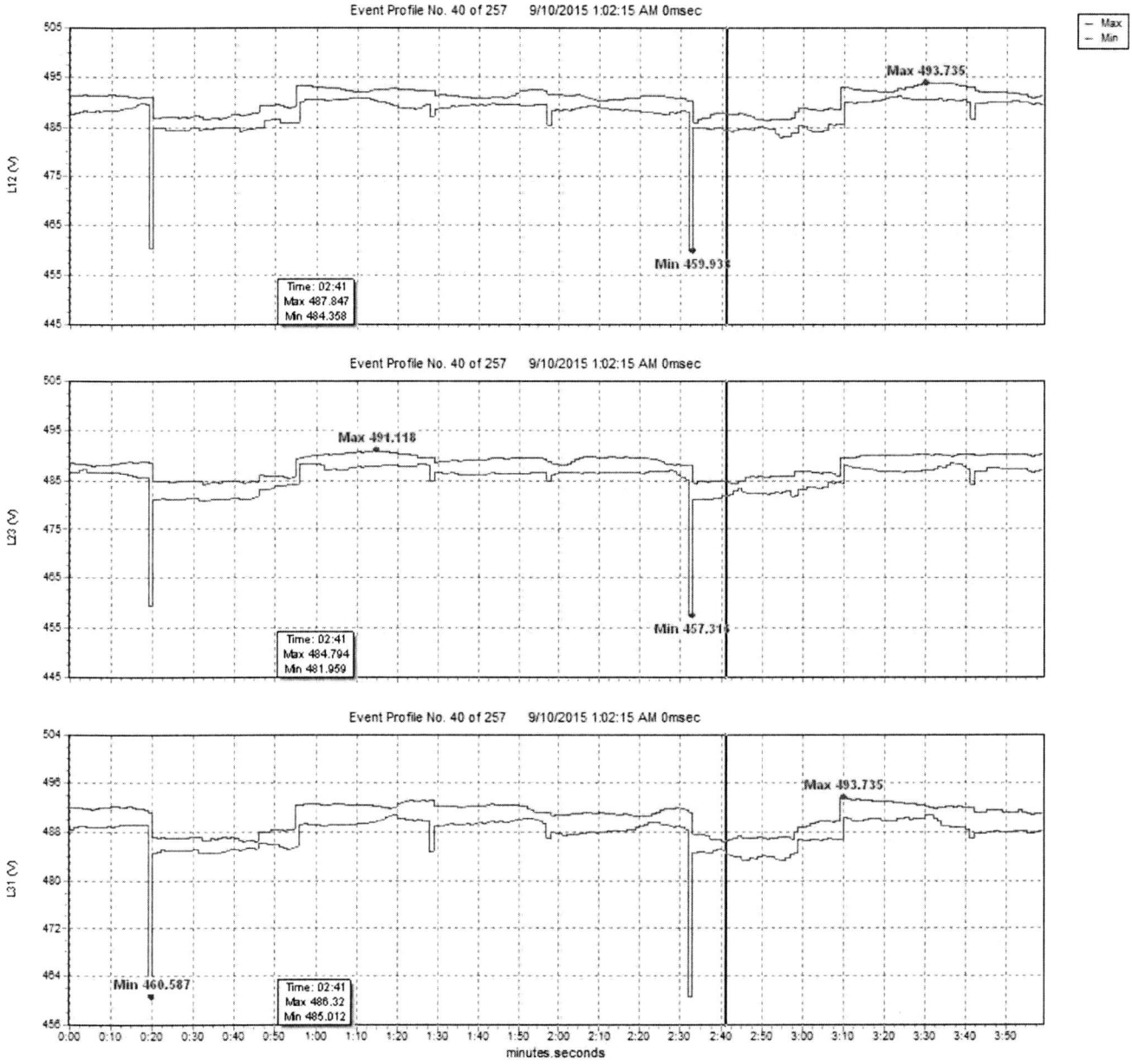
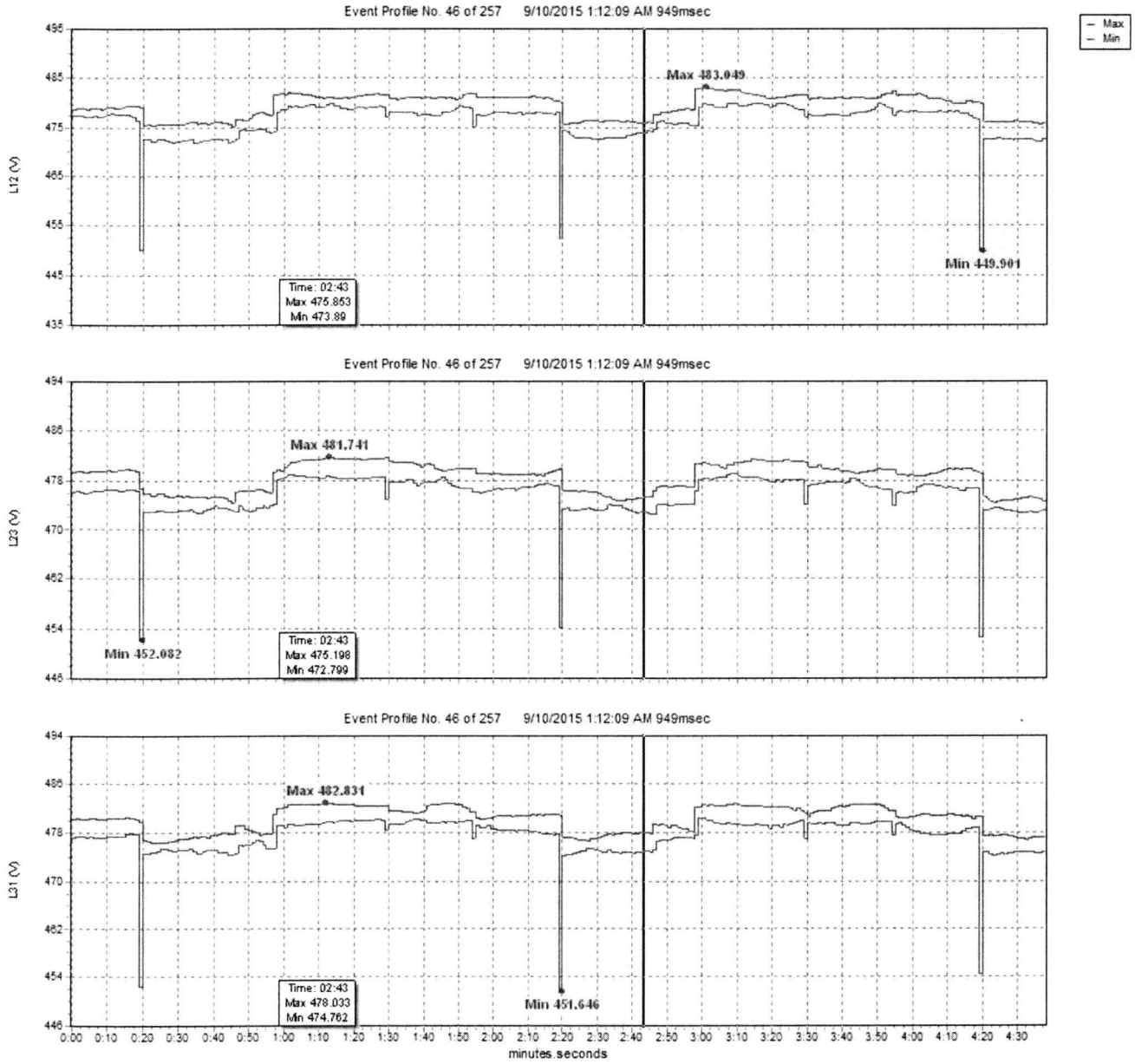


## Fluke 1735 Power Logger Recorder – Page 7 of 22



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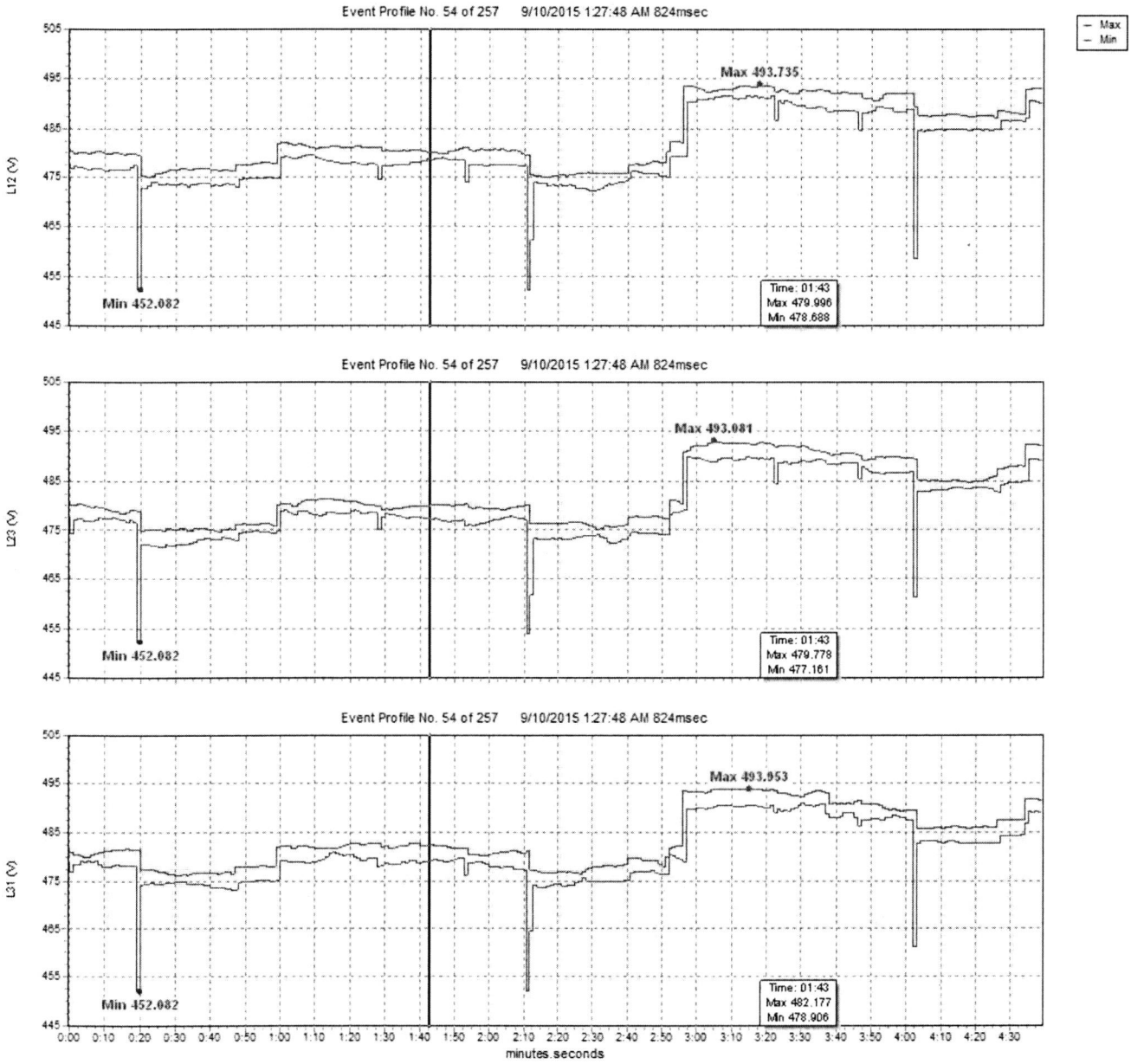

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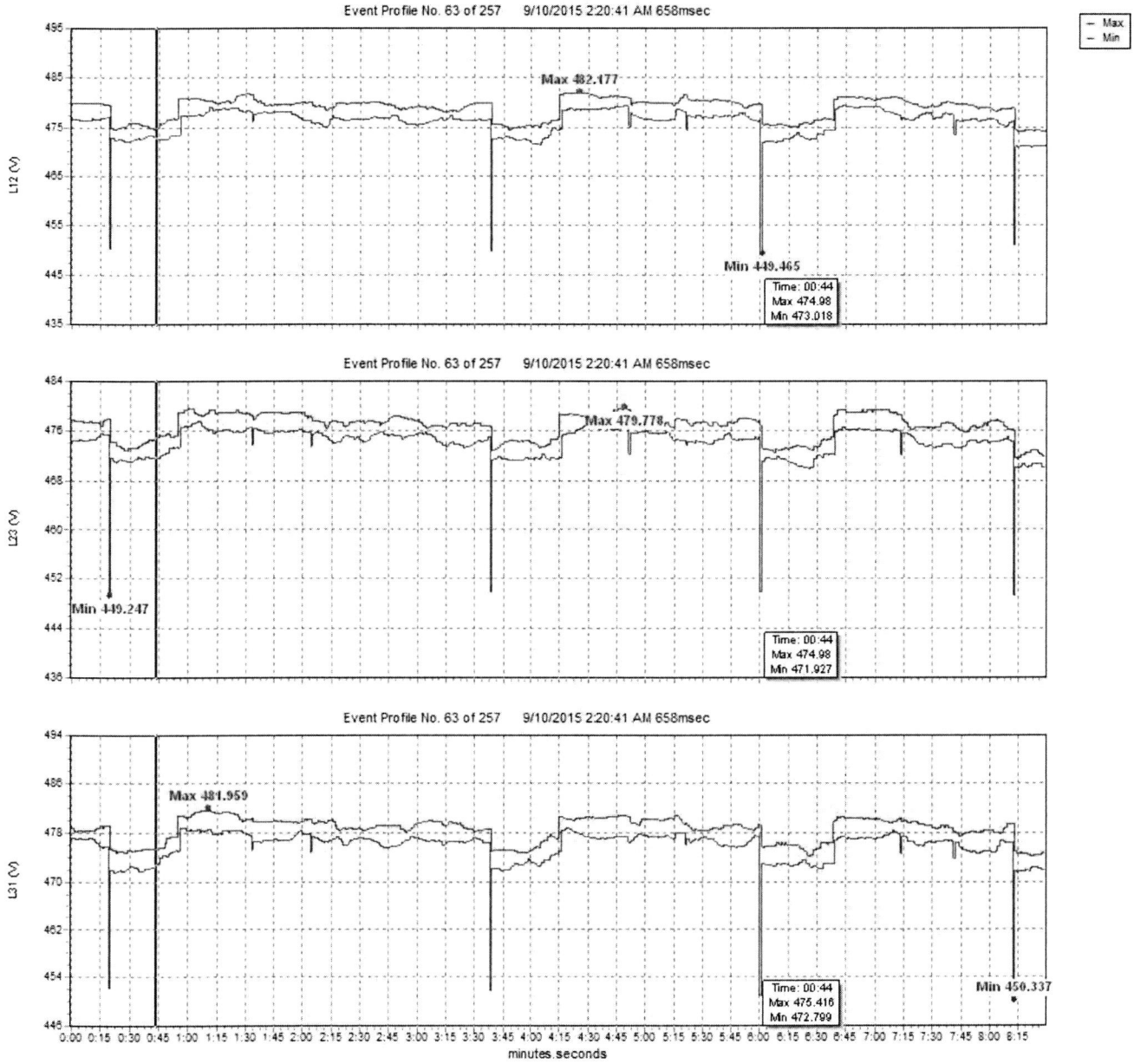

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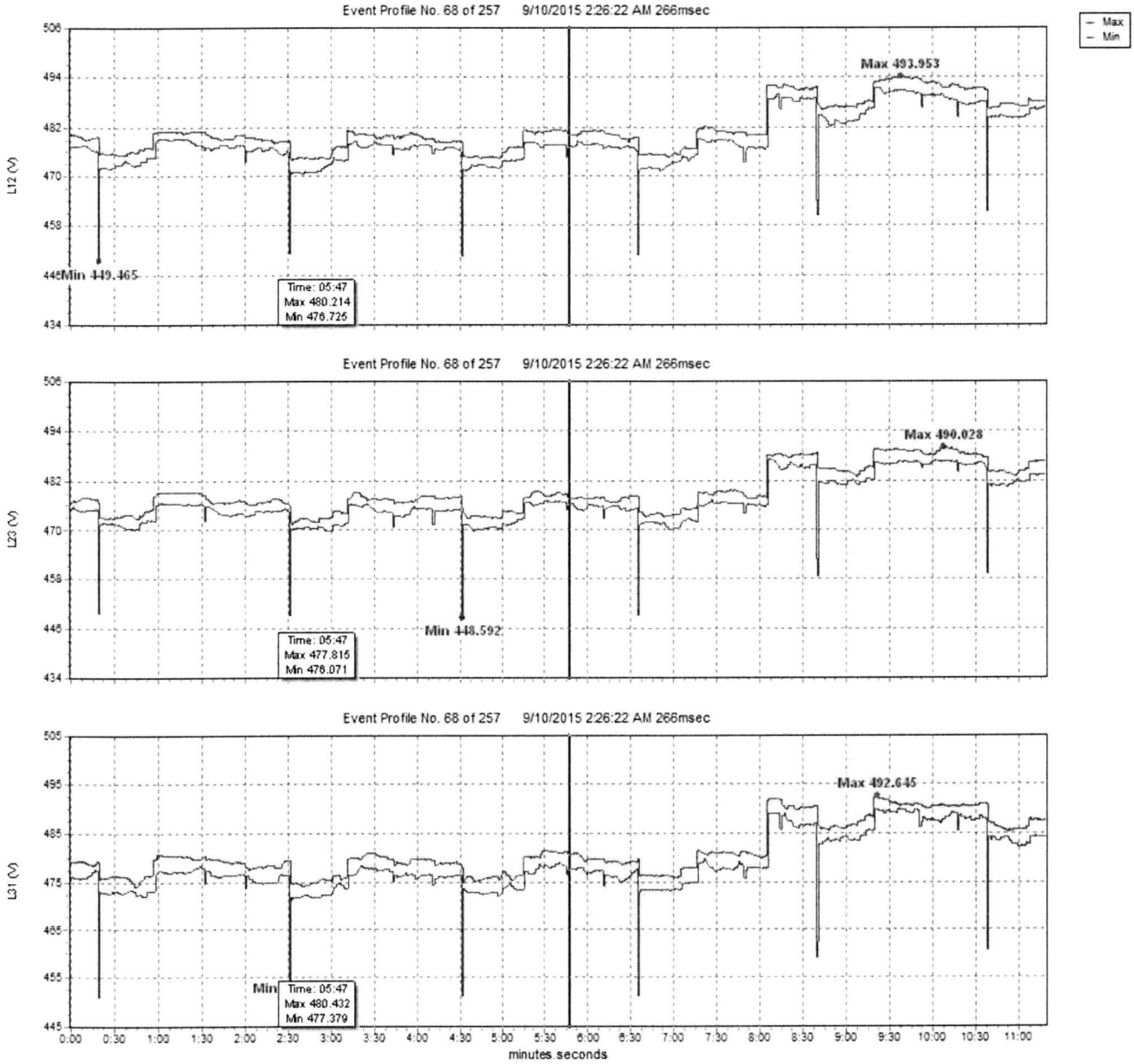

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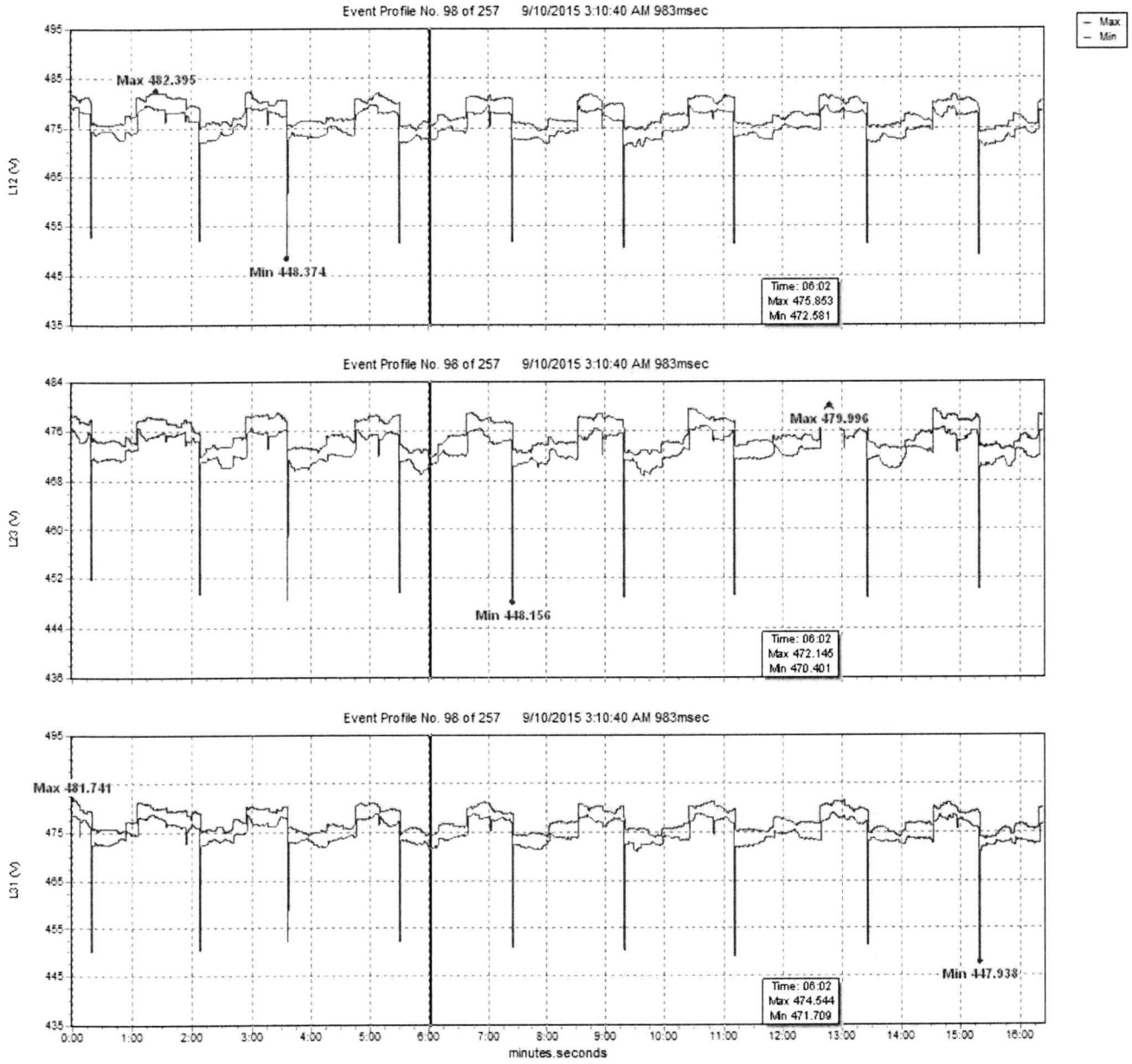

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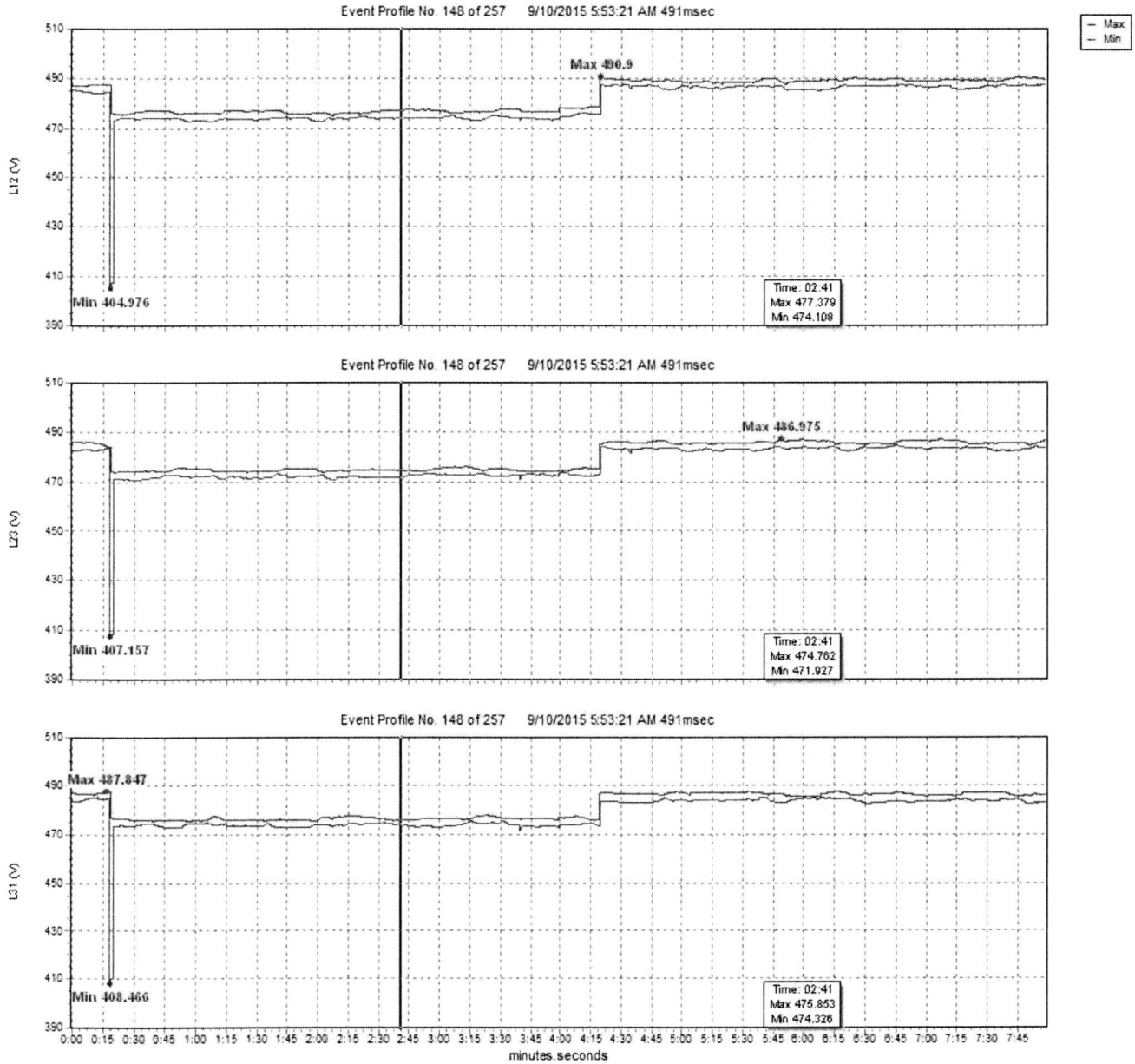

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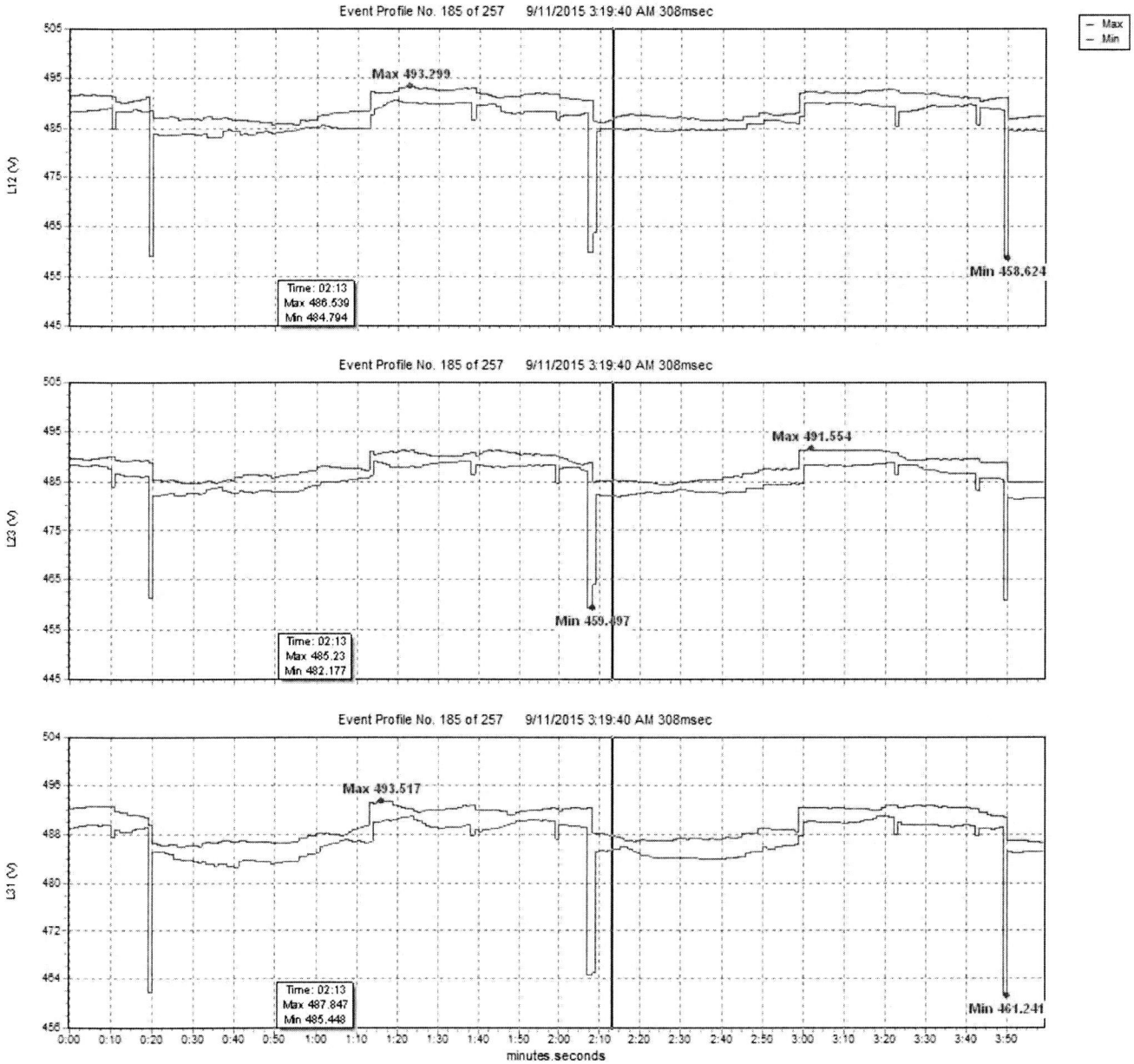

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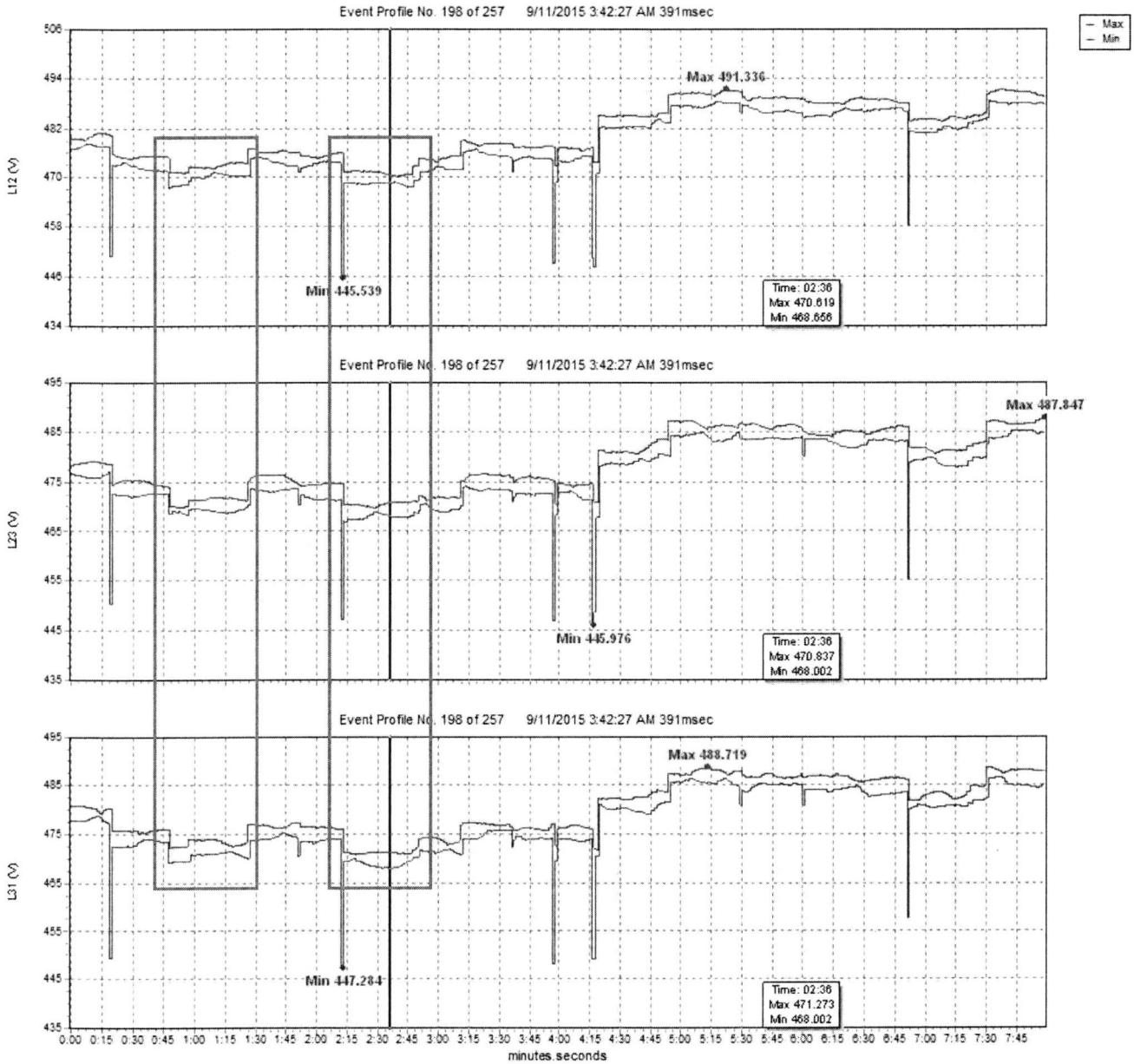

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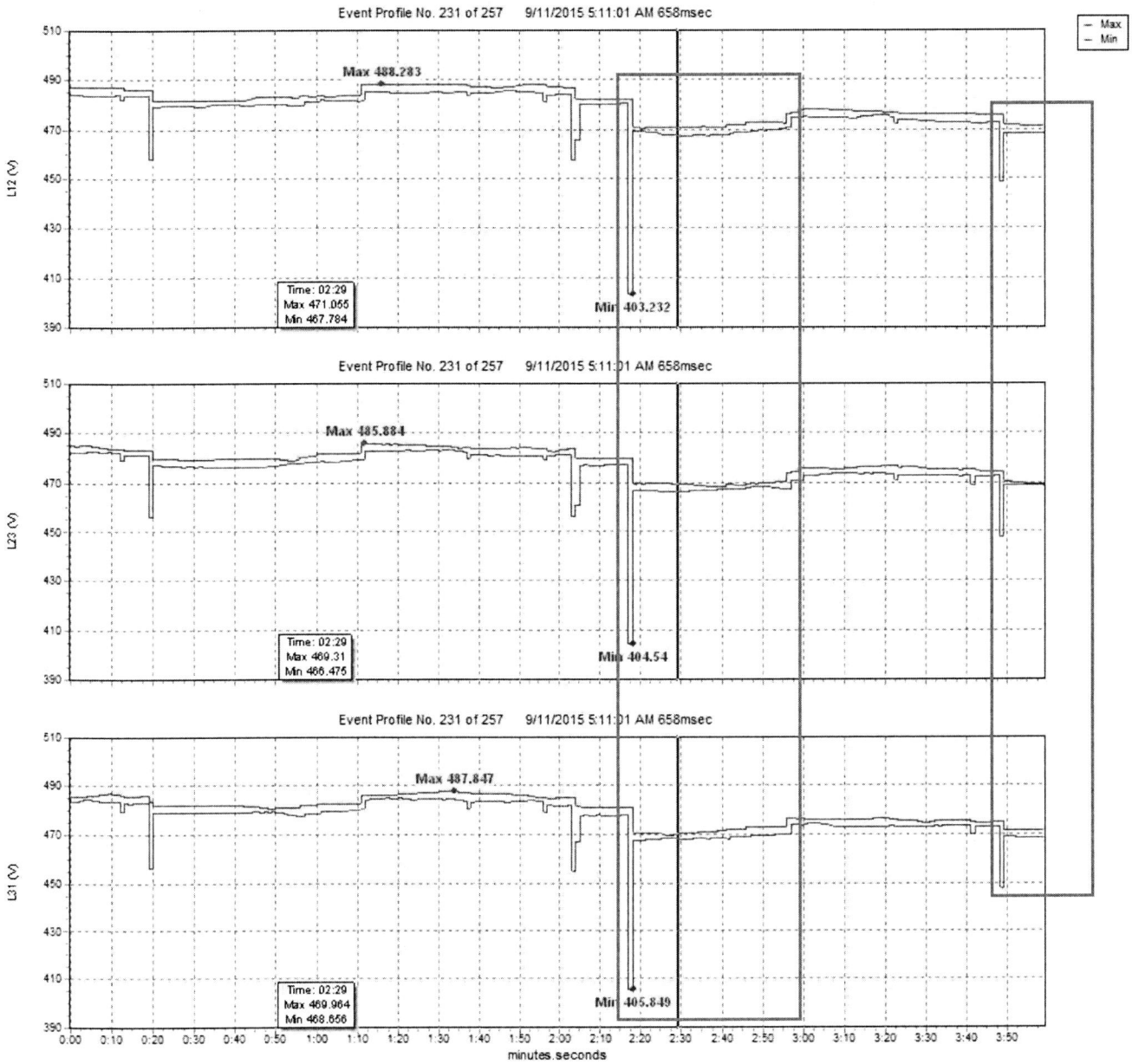

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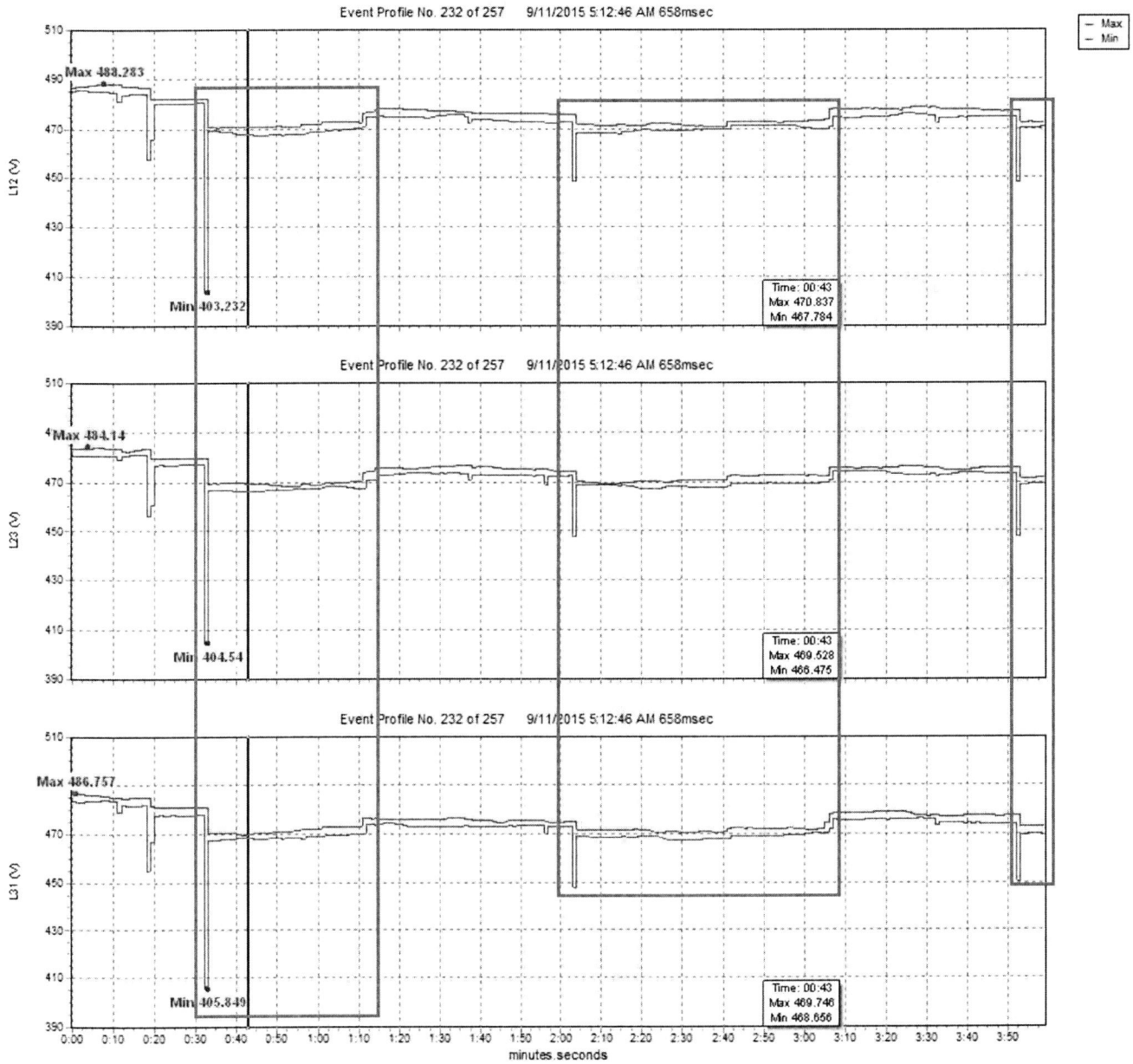

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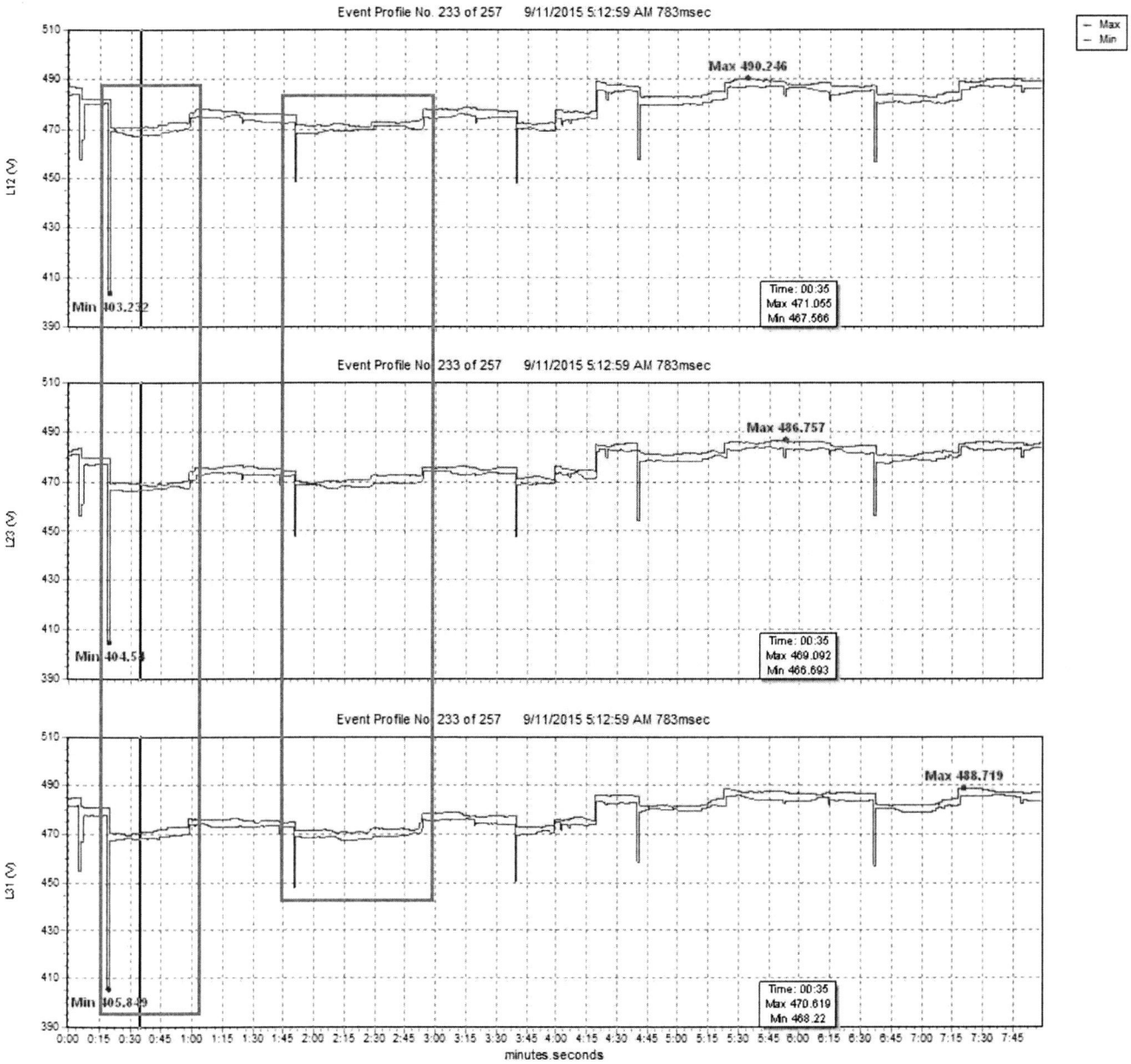

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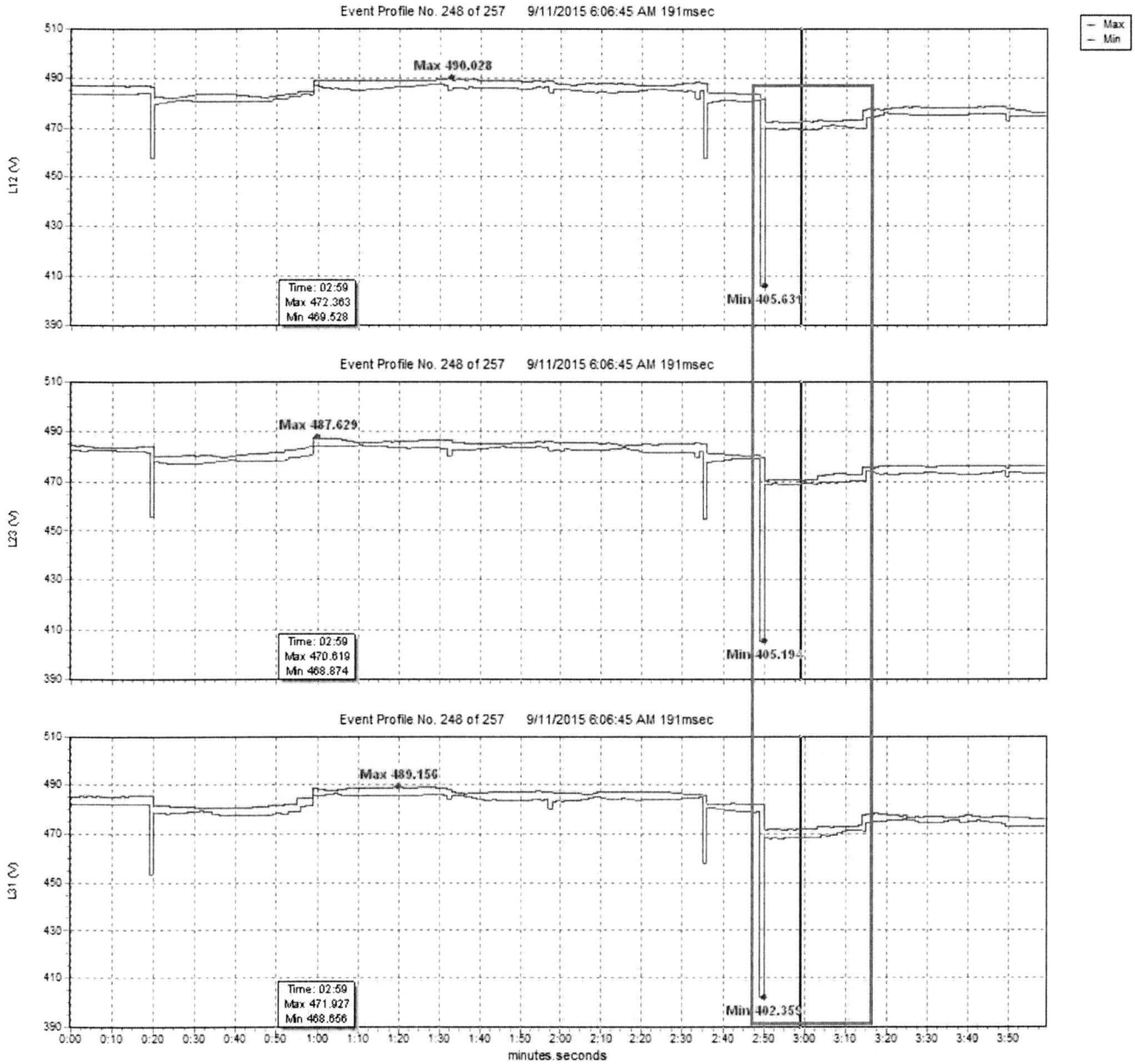

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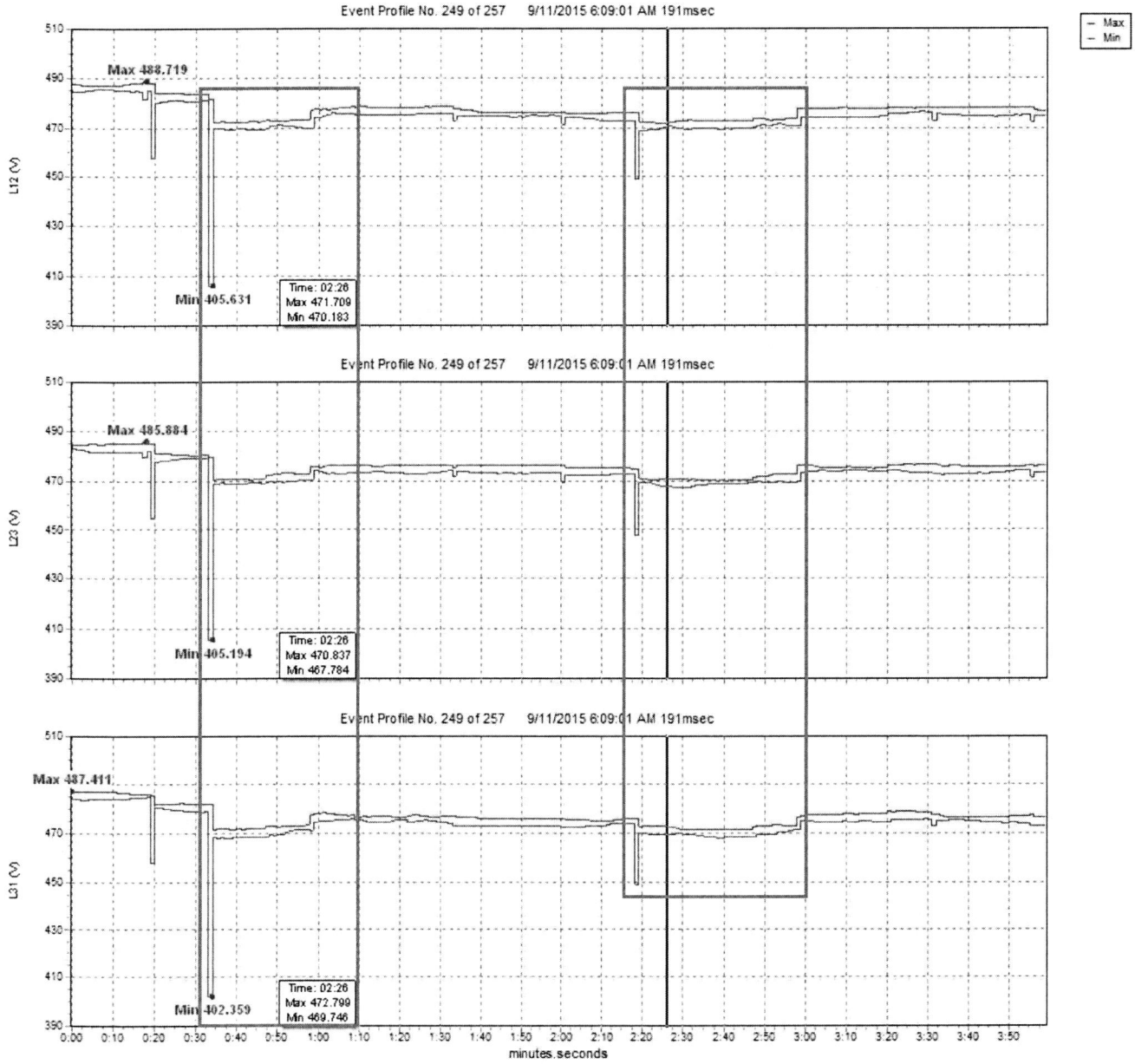

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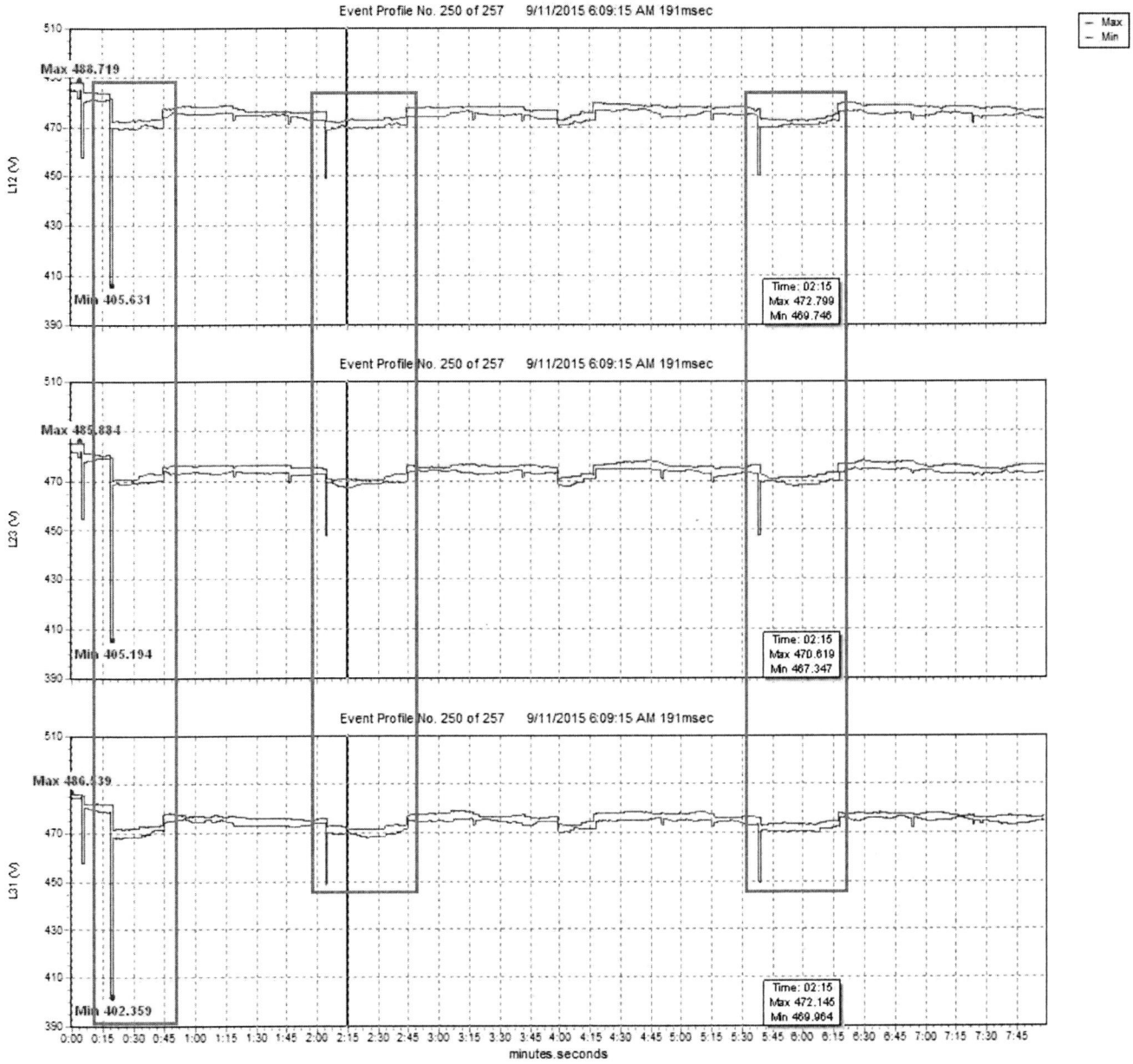

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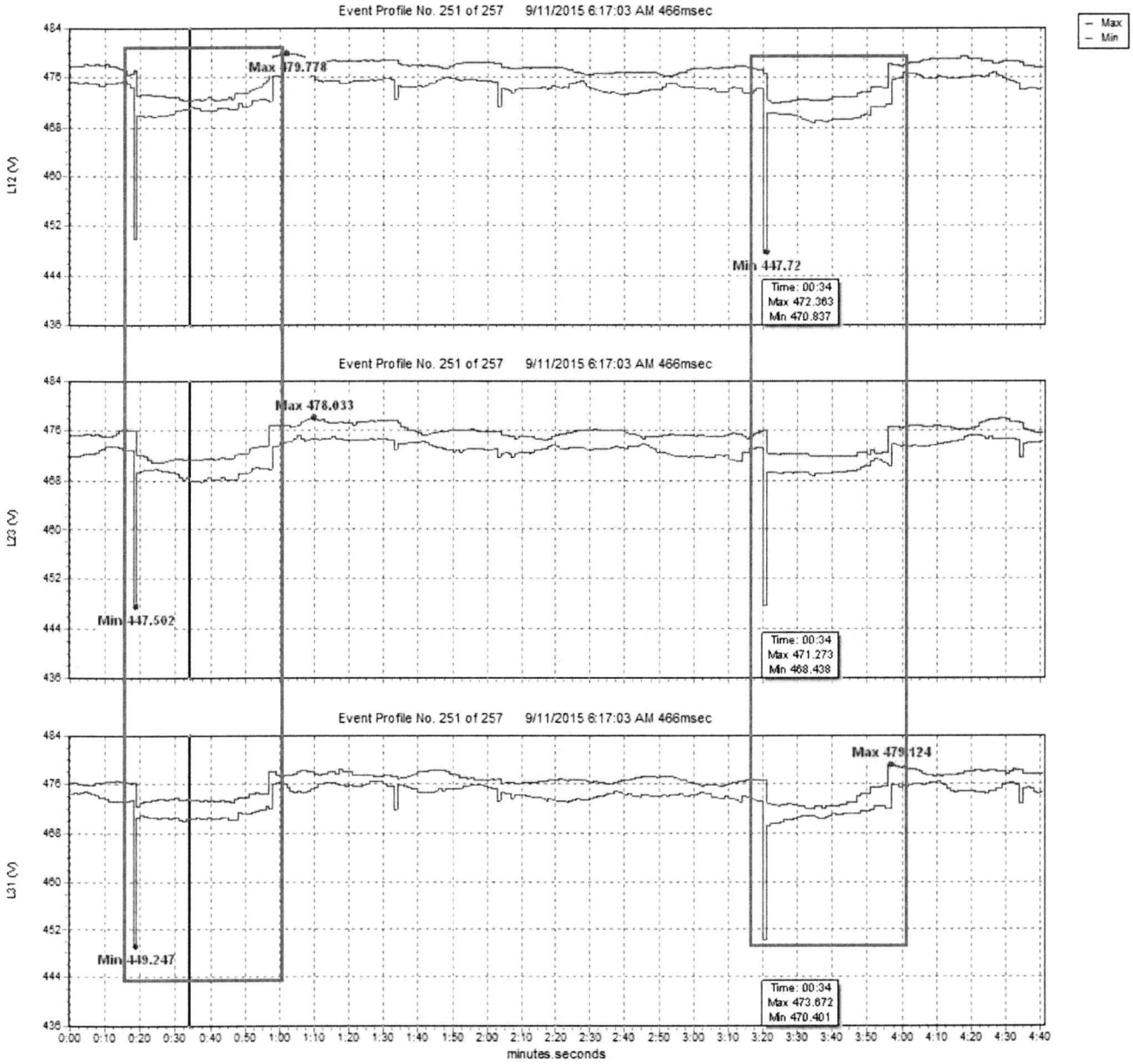

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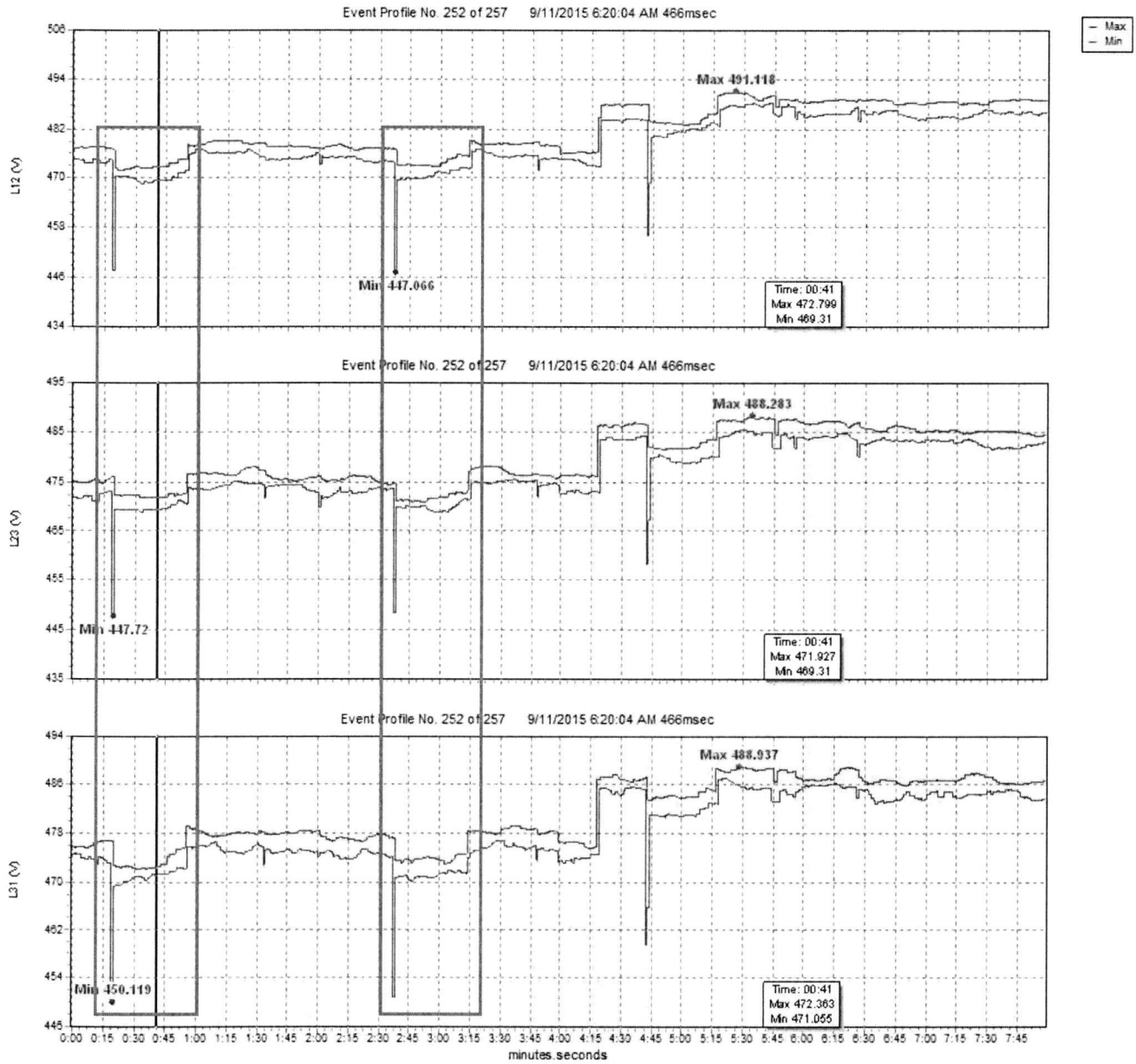

## APPENDIX G

**KEC Electrical Service Handbook**

## A. Inspection and Code

The member is responsible for complying with all requirements for temporary and permanent service equipment.

All of your electrical equipment must comply with the most current edition of the National Electric Code (NEC) and any state or local code requirements. Idaho electrical inspectors can answer any NEC code questions. Call 1.800.955.3044 for an Idaho electrical inspection. State electrical inspectors are available to answer code-related questions from 8 a.m. to 5 p.m. Monday through Friday.
A state electrical permit must be obtained to initiate electrical service. On homeowner-installed service equipment, the service equipment and the installation must be approved by the state electrical bureau prior to energizing the service.

For further information regarding inspections, permits, codes and easements, contact KEC at 208.765.1200.

## B. Temporary Service

For homeowner installed temporary services, KEC will connect and install an electric meter only after inspection and approval by the state electrical inspector.

## C. Installing and Removing Meters

Only authorized and qualified KEC personnel may install and remove meters. With some types of meter sockets, removal of the meter does *not* de-energize the existing system.

## D. Third Party Easements

Any third party easements are the responsibility of the applicant to obtain and submit to KEC. KEC will assist in the process of providing a blank easement for signature; however it is the applicant's responsibility to work with land owners. All easements will be recorded by KEC must comply with KEC Policy No. 3-4.

## E. Protection of Electrical Equipment

The member shall provide protective equipment as required by the National Electric Code (NEC) or other applicable code(s). For all three-phase motor installations, the member is responsible for installing protection equipment against loss of phase conditions.

## F. Service Voltages for New Services

For single-phase installations, 120/240 volt service is available. This is the typical three-wire service used for residences. 120 volt, two-wire service is not available.

For three-phase installations, 120/208 and 277/480 volt services are available. These are the typical four-wire services used in commercial buildings and irrigation. KEC no longer accepts any new delta services.

## G. Motors

- The maximum motor size allowed on a single-phase line is 10 hp.
- All motors 20 hp or larger shall have soft starting.
- The maximum motor size allowed on a two-phase line is 15 hp.
- Variable frequency drives must meet the industry standard (IEEE Standard 519-1992) for harmonics. If they don't, it is the member's responsibility to provide the necessary harmonic filters to bring the installation into compliance.

## APPENDIX H

**NEC Reference**

line side of the disconnect. Protection against ground faults and short circuits is provided by the special requirements for service conductor protection and the location of the conductors.

On multiwire circuits, two or three single-pole switches or circuit breakers that are capable of individual operation are permitted as one protective device, provided the switches or circuit breakers are equipped with handle ties or a master handle, so that all ungrounded conductors of a service can be disconnected with not more than six operations of the hand, per 230.71(B).

**(A) Ungrounded Conductor.** Such protection shall be provided by an overcurrent device in series with each ungrounded service conductor that has a rating or setting not higher than the allowable ampacity of the conductor. A set of fuses shall be considered all the fuses required to protect all the ungrounded conductors of a circuit. Single-pole circuit breakers, grouped in accordance with 230.71(B), shall be considered as one protective device.

*Exception No. 1: For motor-starting currents, ratings that comply with 430.52, 430.62, and 430.63 shall be permitted.*

The service OCPD for a load that includes motors as well as lighting or a lighting and appliance load is subject to the motor-starting currents for all of the motors within a building. This exception allows the service OCPD to be sized using the requirements of Article 430 to accommodate the motor-starting and running current plus the other loads within the building. All of the building loads are determined in accordance with Article 220, and the service conductors and OCPD must be sized to carry that load. OCPDs for motor loads are permitted to have a rating or setting that exceeds the allowable ampacity of the circuit conductors, and this exception extends that permission to the service OCPD. For an individual motor, the rating is specified by 430.52; for two or more motors, the rating is specified by 430.62; and for a motor(s) load plus lighting and appliance load, the rating is specified by 430.63.

*Exception No. 2: Fuses and circuit breakers with a rating or setting that complies with 240.4(B) or (C) and 240.6 shall be permitted.*

Where the conductor ampacity does not correspond to the standard ampere rating of a circuit breaker or fuse, this exception permits the next-larger-size circuit breaker or fuse to be installed. The permission to "round up" is limited by 240.4(B)(3) to ratings not exceeding 800 amperes. This provision only permits rounding up to the next standard size fuse or circuit breaker rating and does not permit the load to exceed the allowable ampacity of the service conductors. See 240.6 for standard ampere ratings of fuses and circuit breakers.

*Exception No. 3: Two to six circuit breakers or sets of fuses shall be permitted as the overcurrent device to provide the overload protection. The sum of the ratings of the circuit breakers or fuses shall be permitted to exceed the ampacity of the service conductors, provided the calculated load does not exceed the ampacity of the service conductors.*

If multiple switches or OCPDs are used as the disconnecting means, the ampacity of the service conductors must be equal to

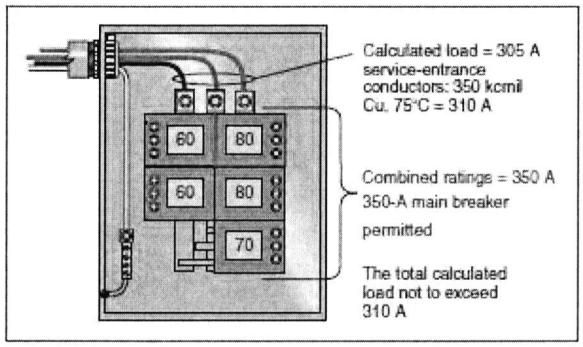


***EXHIBIT 230.26*** *An example in which the combined ratings of the five overcurrent devices are permitted to exceed the ampacity of the service conductors.*

or greater than the load calculated in accordance with Article 220; however, the conductor ampacity is not required to be equal to or greater than the combined rating of the multiple service OCPDs. The combined rating of service disconnecting means is covered in 230.80.

The combined ratings of the five OCPDs (350 amperes) shown in Exhibit 230.26 exceed the ampacity of the service-entrance conductors (310 amperes) that is permitted by this exception. As specified, the ampacity of the service-entrance conductors is sufficient to carry the calculated load. The combined rating of the five service disconnecting means also complies with 230.80, which requires that the combined rating (350 amperes) be not less than the calculated load (305 amperes), the minimum size required for the service OCPD specified by 240.4 and 230.80. In addition, the rating of the equipment (panelboard) in which the five OCPDs or service disconnecting means are installed cannot be less than the calculated load in accordance with the requirements of 408.30. This exception allows for some design flexibility by not requiring the sum of the ratings to be equal to or less than the ampacity of the service-entrance conductors.

For example, the calculated load supplied by the two 80-ampere devices shown in Exhibit 230.26 may be 73 amperes. Section 240.6 identifies 70 amperes and 80 amperes as standard OCPD sizes. A 70-ampere device is too small, but an 80-ampere device can be used in accordance with 240.4. The feeder conductors supplied by the 80-ampere device are required to have an ampacity not less than the calculated load, which in this example is 73 amperes.

*Exception No. 4: Overload protection for fire pump supply conductors shall comply with 695.4(B)(2)(a).*

*Exception No. 5: Overload protection for 120/240-volt, 3-wire, single-phase dwelling services shall be permitted in accordance with the requirements of 310.15(B)(7).*

**(B) Not in Grounded Conductor.** No overcurrent device shall be inserted in a grounded service conductor except a circuit breaker that simultaneously opens all conductors of the circuit.



Figure 1: NEC 230.90(B)

**Diamond Bar Estates Water Co.**
**Undepreciated Pump Amounts for Deferral**
**Case No. DIA-W-15-01**

| | | | | | |
|---|---|---|---|---|---|
| Date Pump was replaced | 11/1/2010 | 11/12/2012 | 8/16/2014 | 6/11/2015 | TOTAL |
| Original Price | 11,421 | 12,089 | 14,171 | 13,764 | 51,444 |
| Insurance Payments | | (9,500) | (4,171) | | (13,671) |
| Staff Adjustment for Insurance Claim not filed | | | | (3,764) | (3,764) |
| Net Cost | 11,421 | 2,589 | 10,000 | 10,000 | 34,009 |
| Service Life | 20 | 20 | 20 | 20 | |
| 2009 Depreciation | | | | | |
| 2010 Depreciation | 286 | | | | |
| 2011 Depreciation | 571 | | | | |
| 2012 Depreciation | 571 | 65 | | | |
| 2013 Depreciation | | 129 | | | |
| 2014 Depreciation | | 129 | 250 | | |
| 2015 Depreciation | | | 500 | 250 | |
| Remaining Undepreciated Balance | 9,993 | 2,265 | 9,250 | 9,750 | 31,258 |
| Remaining Life | 17.5 | 17.5 | 18.5 | 19.5 | |

| | |
|---|---|
| Total Remaining Undepreciated Amount (Proposed Deferral Amount) | 31,258 |
| Average Remaining Life (Proposed Amortization Period) | 18.00 |
| Proposed Amortization | 1,737.00 |
| Application Amotization Amount | 5,750.00 |
| Adjustment | (4,013.00) |

Attachment D
Case No. DIA-W-15-01
Staff Comments
05/18/16

**Diamond Bar Estates Water Co.**
**Plant In Service**
**Case No. DIA-W-15-01**

Application Rate Case Expense
$ 4,418.00

Email from Cristy on 4/29/2016

| | | | | | | |
|---|---|---|---|---|---|---|
| Professional Fees | $ | 2,200 | | | | |
| Postage | $ | 111 | | | | |
| DBEW Admin Work | $ | 1,700 | Hours | 85 | Rate $ | 20 |
| Water Master Time | $ | 750 | Hours | 30 | Rate $ | 25 |
| TOTAL COST | $ | 4,761 | | | | |

| | | |
|---|---|---|
| Fees for Annual Report | $ | (200) |
| Net Rate Case Expense | $ | 4,561 |

| | |
|---|---|
| Initial Rates Set | 2003 |
| First Rates | 2007 |
| This Rate Case | 2015 |
| Average years Between Rate Cases | 6 |

Requested 4 Year Amortization
$ 1,105.00

6 year amortization
$ 794.00

Adjustment
$ (311.00)

Attachment E
Case No. DIA-W-15-01
Staff Comments
05/18/16

**Diamond Bar Estates Water Co.**
**Water System Operator**
**Case No. DIA-W-15-01**

Amount Authorized in 2007 Case
$ 6,968

Increase Recommended
$ 1,700

Total Water Master Expense Recommended
$ 8,668

Amount Requested by Company
$ 9,431

Adjustment
$ (763)

2007 Info

| AREA_NAME | OCC_CODE | OCC_TITLE | H_MEAN | A_MEAN | H_PCT10 | H_PCT25 | H_MEDIAI | H_PCT75 | H_PCT90 | A_PCT10 | A_PCT25 | A_MEDIAI | A_PCT75 | A_PCT90 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Coeur d'Alene, I | 51-8031 | Water and liquid waste treatment plant and system operators | 15.94 | 33150 | 10.33 | 11.72 | 15.20 | 19.88 | 23.31 | 21490 | 24370 | 31610 | 41340 | 48470 |

2014 Info

| AREA_NAME | OCC_CODE | OCC_TITLE | H_MEAN | A_MEAN | H_PCT10 | H_PCT25 | I_MEDIAN | H_PCT75 | H_PCT90 | A_PCT10 | A_PCT25 | _MEDIAN | A_PCT75 | A_PCT90 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Coeur d'Alene, I | 51-8031 | Water and Wastewater Treatment Plant and System Operators | 19.56 | 40,690 | 11.77 | 15.72 | 19.89 | 23.29 | 27.74 | 24,480 | 32,710 | 41,370 | 48,440 | 57,700 |

% Increase

| AREA_NAME | OCC_CODE | OCC_TITLE | H_MEAN | A_MEAN | H_PCT10 | H_PCT25 | H_MEDIAI | H_PCT75 | H_PCT90 | A_PCT10 | A_PCT25 | A_MEDIAI | A_PCT75 | A_PCT90 | Average % Increase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Coeur d'Alene, I | 51-8031 | Water and Wastewater Treatment Plant and System Operators | 22.71% | 22.75% | 13.94% | 34.13% | 30.86% | 17.15% | 19.00% | 13.91% | 34.22% | 30.88% | 17.17% | 19.04% | 22.98% |

Attachment F
Case No. DIA-W-15-01
Staff Comments
05/18/16

**Diamond Bar Estates Water Co.**
**Bookkeeping Expense**
**Case No. DIA-W-15-01**

Amount Authorized in 2007 Case
$ 3,600

Increase Recommended
$ 1,100

Total Bookkeeping Expense Recommended
$ 4,700

Amount Requested by Company
$ 7,325

Adjustment
$ (2,625)

2007 Info

| AREA_NAME | OCC_CODE | OCC_TITLE | H_MEAN | A_MEAN | H_PCT10 | H_PCT25 | H_MEDIAN | H_PCT75 | H_PCT90 | A_PCT10 | A_PCT25 | A_MEDIAN | A_PCT75 | A_PCT90 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Coeur d'Alene, ID | 43-3031 | Bookkeeping, accounting, and auditing clerks | 12.86 | 26760 | 7.11 | 9.21 | 12.80 | 16.48 | 19.19 | 14780 | 19150 | 26620 | 34270 | 39920 |

2014 Infor

| AREA_NAME | OCC_CODE | OCC_TITLE | H_MEAN | A_MEAN | H_PCT10 | H_PCT25 | H_MEDIAN | H_PCT75 | H_PCT90 | A_PCT10 | A_PCT25 | A_MEDIAN | A_PCT75 | A_PCT90 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Coeur d'Alene, ID | 43-3031 | Bookkeeping, Accounting, and Auditing Clerks | 16.43 | 34,180 | 10.06 | 12.78 | 15.86 | 19.42 | 23.66 | 20,930 | 26,580 | 32,980 | 40,400 | 49,220 |

% Increase

| AREA_NAME | OCC_CODE | OCC_TITLE | H_MEAN | A_MEAN | H_PCT10 | H_PCT25 | H_MEDIAN | H_PCT75 | H_PCT90 | A_PCT10 | A_PCT25 | A_MEDIAN | A_PCT75 | A_PCT90 | Average % Increase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Coeur d'Alene, ID | 43-3031 | Bookkeeping, Accounting, and Auditing Clerks | 27.76% | 27.73% | 41.49% | 38.76% | 23.91% | 17.84% | 23.29% | 41.61% | 38.80% | 23.89% | 17.89% | 23.30% | 28.86% |

Attachment G
Case No. DIA-W-15-01
Staff Comments
05/18/16

**Diamond Bar Estates Water Co.**
**Water Testing Expense**
**Case No. DIA-W-15-01**

**Well #1**

| Source | Analyte | Frequency | No. of Test* | Cost/Test | Total Cost | Annual Cost |
|---|---|---|---|---|---|---|
| Well #1 | Nitrate | Annual | 9 | $ 20.00 | $ 180.00 | $ 20.00 |
| Well #1 | Nitrite | 1 in 9 Years | 1 | $ 20.00 | $ 20.00 | $ 2.22 |
| Well #1 | Alpha | 1 in 9 Years | 1 | $ 85.00 | $ 85.00 | $ 9.44 |
| Well #1 | Radium 226 | 1 in 9 Years | 1 | $ 130.00 | $ 130.00 | $ 14.44 |
| Well #1 | Radium 228 | 1 in 9 Years | 1 | $ 120.00 | $ 120.00 | $ 13.33 |
| Well #1 | Uranium | 1 in 9 Years | 1 | $ 55.00 | $ 55.00 | $ 6.11 |
| Well #1 | Arsenic | 1 in 9 Years | 1 | $ 25.00 | $ 25.00 | $ 2.78 |
| Well #1 | Sodium | 1 in 3 Years | 3 | $ 25.00 | $ 75.00 | $ 8.33 |
| Well #1 | Flouride | 1 in 9 Years | 1 | $ 20.00 | $ 20.00 | $ 2.22 |
| Well #1 | IOC ** | 1 in 9 Years | 1 | $ 210.00 | $ 210.00 | $ 23.33 |
| Well #1 | VOC** | 1 in 6 Years | 1.5 | $ 160.00 | $ 240.00 | $ 26.67 |
| Sub-total | | | | | | $ 128.89 |

**Well #2*****

| Source | Analyte | Frequency | No. of Test* | Cost/Test | Total Cost | Annual Cost |
|---|---|---|---|---|---|---|
| Well #2 | Nitrate | Annual | 9 | $ 20.00 | $ 180.00 | $ 20.00 |
| Well #2 | Nitrite | 1 in 9 Years | 1 | $ 20.00 | $ 20.00 | $ 2.22 |
| Sub-total | | | | | | $ 22.22 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Distribution | Lead & Copper | 5 samples/3 years | 30 | $ 40.00 | $ 1,200.00 | $ 133.33 |
| Distribution | Total Coliform | Monthly | 108 | $ 20.00 | $ 2,160.00 | $ 240.00 |
| | | | | | | |
| **Grand Total - Normalized Annual Water Testing Costs** | | | | | | **$ 546.67** |

* Total number of tests in 9-year cycle.
** IOC = Inorganic Contaminants
VOC = Volatile Organic Contaminants
DBP = Distribution By-Products
*** Fewer tests are required for Well 2 than for Well 1

Attachment H
Case No. DIA-W-15-01
Staff Comments
05/18/16

**Diamond Bar Estates Water Company**
**Power Cost Adjustment**
**DIA-W-15-1**

| Line | Description | |
|---|---|---|
| 1 | Company Proposed Power Costs | $9,990 |
| 2 | Less Natural Gas Costs Separately Handled | $405 |
| | | $9,585 |
| 3 | Adjusted Proposed Power Costs (Kootenai Electric) | $9,585 |
| 4 | Remove Company Proposed Adj for Rate Increase | $479 |
| 5 | Remaining Power Costs | $9,106 |
| 6 | Remaining Power Costs | $9,106 |
| 7 | Remove 4.8% of Power Costs (Personal Use) | $437 |
| 8 | Staff Recommended Power Costs | $8,669 |
| 9 | Sum of Staff Adjustments | $916 |

**Diamond Bar Estates Water Co.**
**Rate Base Calculation**
**Case No. DIA-W-15-01**

| | | Application | Staff Recommendation | Difference |
|---|---|---|---|---|
| 1 | Plant In Service | 48,388 | 39,670 | (8,718) |
| 2 | Accumulated Depreciation | 12,669 | 10,177 | (2,492) |
| 3 | Net Plant in Service | 35,719 | 29,493 | (6,226) |
| 4 | Inventory | - | - | - |
| 5 | Working Capital | 4,679 | 3,452 | (1,227) |
| 6 | Total Rate Base | 40,398 | 32,945 | (7,453) |
| 7 | | | | |
| 8 | | | | |
| 9 | Working Capital Calculation | | | |
| 10 | Total Operating Expense | 37,434 | 27,627 | (9,807) |
| 11 | Working Capital (1/8 Rule) | 4,679 | 3,452 | (1,227) |

**Diamond Bar Estates Water Co.**
**Revenue Requirement**
**Case No. DIA-W-15-01**

| | | Company Case | | Staff Case | |
|---|---|---|---|---|---|
| 1 | Rate Base | | $ 40,398 | | $ 32,945 |
| 2 | Required Rate of Return | | 12.00% | | 12.00% |
| 3 | Return on Investment | | $ 4,848 | | $ 3,953 |
| 4 | Net Operating Income Realized | | $ (14,661) | | $ (6,932) |
| 5 | Net Operating Income Deficiency | | $ 19,509 | | $ 10,885 |
| | Revenue Requirement Increase | | | | |
| 9 | Subject to Income Tax | $ 4,848 | | $ 3,953 | |
| 10 | Tax Gross Up Factor | 128.1622% | | 128.0631% | |
| | Tax Grossed Up Amount | $ 6,213 | | $ 5,063 | |
| 11 | Not Subject to Income Tax | $ 14,661 | | $ 6,932 | |
| 12 | Gross Up Factor not Subject to Income Taxes | 100.2487% | | 100.1881% | |
| | Not Subject to Income Taxes Amount | $ 14,697 | | $ 6,945 | |
| | Revenue Requirement Increase | | $ 20,910 | | $ 12,008 |
| 13 | Revenue Increase Required | | $20,910 | | $12,008 |
| 14 | Total Revenue Collected in Test year | | $26,338 | | $ 25,696 |
| 15 | Revenue Increase % | | 79.39% | | 46.73% |
| 16 | Total Gross Revenue Requirement | | $47,248 | | $ 37,704 |

| | Gross-up Factor Calculation | Subject to Income Taxes | Excluding Income Taxes | Subject to Income Taxes | Excluding Income Taxes |
|---|---|---|---|---|---|
| 17 | Net Deficiency | 100.00% | 100.00% | 100.00% | 100.00% |
| 18 | PUC Fees | 0.2481% | 0.2481% | 0.1877% | 0.1877% |
| 19 | Bad Debts | 0.0000% | 0.0000% | 0.0000% | 0.0000% |
| | | 99.7519% | 99.7519% | 99.8123% | 99.8123% |
| 20 | State Tax @ 8% | 7.9601% | 0.0000% | 7.9601% | 0.0000% |
| 21 | Federal Taxable | 91.7918% | 99.7519% | 91.8522% | 99.8123% |
| 22 | Federal Tax @ 15% | 13.76570% | 0.00000% | 13.76570% | 0.00000% |
| 23 | Net After Tax | 78.02610% | 99.75190% | 78.08650% | 99.81230% |
| 24 | Net to Gross Multiplier | 128.16224% | 100.24872% | 128.06311% | 100.18805% |

Attachment K
Case No. DIA-W-15-01
Staff Comments
05/18/16

Diamond Bar Estates Water Company
Proof of Revenue
DIA-W-15-1

## Current Rates

| | Charge: |
|---|---|
| Current Minimum (incl. 5,500 gallons/month) | $29.00 |
| Current Usage Charge (per 1,000 gallons) | $0.80 |

| Billing Months | Customers[1] | Current Min Charge | Billed Gallons | Current Usage Charge | Revenue from Minimum Charge | Revenue from Usage Charge | Total Revenue |
|---|---|---|---|---|---|---|---|
| Apr-14 | 228 | $29.00 | 215,720 | $0.80 | $6,612 | $173 | $6,785 |
| May-14 | 45 | $29.00 | 48,710 | $0.80 | $1,305 | $39 | $1,344 |
| Jun-14 | 45 | $29.00 | 511,470 | $0.80 | $1,305 | $409 | $1,714 |
| Jul-14 | 44 | $29.00 | 2,344,540 | $0.80 | $1,276 | $1,876 | $3,152 |
| Aug-14 | 45 | $29.00 | 4,166,480 | $0.80 | $1,305 | $3,333 | $4,638 |
| Sep-14 | 44 | $29.00 | 2,725,360 | $0.80 | $1,276 | $2,180 | $3,456 |
| Oct-14 | 44 | $29.00 | 2,712,210 | $0.80 | $1,276 | $2,170 | $3,446 |
| Nov-14 | 44 | $29.00 | 647,700 | $0.80 | $1,276 | $518 | $1,794 |
| TOTAL | 539 | | 13,372,190 | | $15,631 | $10,698 | $26,329 |

| | | |
|---|---|---|
| Current Revenue Target: | $ | 26,338 |
| Difference: | $ | (9) |

*Note 1: April Billing is sum of 5 usage months: Nov. 2013-Mar 2014.*

## Staff Proposed Rates

| | Charge: | % Change from Current |
|---|---|---|
| Staff Proposed Minimum (incl 5,500 gallons/month) | $41.00 | 41.4% |
| Staff Proposed Usage Charge (per 1,000 gallons) | $1.16 | 45.0% |

| Billing Months | Customers[1] | Staff Proposed Min Charge | Billed Gallons | Staff Proposed Usage Charge | Revenue from Minimum Charge | Revenue from Usage Charge | Total Revenue |
|---|---|---|---|---|---|---|---|
| Apr-14 | 228 | $41.00 | 215,720 | $1.16 | $ 9,348 | $ 250 | $ 9,598 |
| May-14 | 45 | $41.00 | 48,710 | $1.16 | $ 1,845 | $ 57 | $ 1,902 |
| Jun-14 | 45 | $41.00 | 511,470 | $1.16 | $ 1,845 | $ 593 | $ 2,438 |
| Jul-14 | 44 | $41.00 | 2,344,540 | $1.16 | $ 1,804 | $ 2,720 | $ 4,524 |
| Aug-14 | 45 | $41.00 | 4,166,480 | $1.16 | $ 1,845 | $ 4,833 | $ 6,678 |
| Sep-14 | 44 | $41.00 | 2,725,360 | $1.16 | $ 1,804 | $ 3,161 | $ 4,965 |
| Oct-14 | 44 | $41.00 | 2,712,210 | $1.16 | $ 1,804 | $ 3,146 | $ 4,950 |
| Nov-14 | 44 | $41.00 | 647,700 | $1.16 | $ 1,804 | $ 751 | $ 2,555 |
| TOTAL | 539 | | 13,372,190 | | $ 22,099 | $ 15,512 | $ 37,611 |

| | | |
|---|---|---|
| Staff Proposed Revenue Target: | $ | 37,704 |
| Difference: | $ | 93 |
| Amout By Which Proposed Target Exceeds Current Target | $ | 11,366 |
| As a Percent: | | 43.2% |

*Note 1: April Billing is sum of 5 usage months: Nov. 2013-Mar 2014.*

Attachment L
Case No. DIA-W-15-01
Staff Comments
05/18/16

Diamond Bar Estates Water Company
New Customer Connection Charge
DIA-W-15-1

| | |
|---|---|
| Current Charge: | $310.00 |
| Company Proposed Charge: | $475.00 |
| Staff Recommended Charge: | $335.00 |

*Backup for Staff Recommedation:*

| Line | Description | |
|---|---|---|
| 1 | Meter | $291.00 |
| | Labor | |
| | Installation: | |
| 2 | 1 hour at $21.24/hour+30% loading | $27.61 |
| | (source: Bureau of Labor Statistics | |
| | hourly wage Occupation Code 47-2150) | |
| 3 | Bookkeeping / Admin / Customer Service | $10.00 |
| | Transportation | |
| 4 | 12 miles @ 55 cents per mile | $6.60 |
| 5 | Total Lines 1-4 | $335.21 |
| | Round to: | **$335.00** |

Attachment M
Case No. DIA-W-15-01
Staff Comments
05/18/16

# CERTIFICATE OF SERVICE

I HEREBY CERTIFY THAT I HAVE THIS 18TH DAY OF MAY 2016, SERVED THE FOREGOING **COMMENTS OF THE COMMISSION STAFF,** IN CASE NO. DIA-W-15-01, BY MAILING A COPY THEREOF, POSTAGE PREPAID, TO THE FOLLOWING:

ROBERT TURNIPSEED
DIAMOND BAR ESTATES
WATER CO
PO BOX 1870
HAYDEN ID 83835
E-MAIL: avondalecon@frontier.com

ALDEN HOLM
9446 W FAIRVIEW AVE
BOISE ID 83704
E-MAIL: alden@treasurevalleycpa.com

SECRETARY